

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF TEXAS  
DALLAS DIVISION

In re KOSMOS ENERGY LTD SECURITIES LITIGATION	§ Consolidated Civil Action No. 3:12-cv-373-B
	§
	§ <u>CLASS ACTION</u>
	§
This Document Relates To:	§
	§
ALL ACTIONS	§
	§

**APPENDIX TO DEFENDANTS' RESPONSE TO  
PLAINTIFF'S MOTION FOR CLASS CERTIFICATION**

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**CERTIFICATE OF SERVICE**

On November 18, 2013, I electronically submitted the foregoing document with the clerk of court for the U.S. District Court, Northern District of Texas, using the electronic case filing system of the court, which served the document on the following counsel of record:

/s/ Terrell W. Oxford  
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1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF TEXAS

3 DALLAS DIVISION

4 In re KOSMOS ENERGY LTD § Consolidated Civil Action  
SECURITIES LITIGATION § No. 3:12-cv-373-B

5 §

6 § CLASS ACTION

7 §

8 This Document Relates To: §

9 §

10 ALL ACTIONS §

11 §

12 ORAL DEPOSITION OF

13 SUZANNE SAVILLE

14 NOVEMBER 7, 2013

15 CONFIDENTIAL

1 ORAL DEPOSITION of SUZANNE SAVILLE,  
2 produced as a witness at the instance of the  
3 Defendants Citigroup Global Markets Inc., Barclays  
4 Capital Inc., Credit Suisse Securities (USA) LLC, BNP  
5 Paribas Securities Corp., SG Americas Securities LLC,  
6 Credit Agricole Securities (USA) Inc., Scotia Capital  
7 (USA) Inc. (f/k/a Howard Weil Incorporated), HSBC  
8 Securities (USA) Inc., Jefferies & Company, Inc.,  
9 Natixis Securities Americas LLC (f/k/a Natixis  
10 Bleichroeder LLC), and RBC Capital Markets LLC, and  
11 duly sworn, was taken in the above-styled and numbered  
12 cause on the 7th of November, 2013, from 9:03 a.m. to  
13 12:33 p.m., before Jennifer Quick Davenport, CSR in  
14 and for the State of Texas, reported by machine  
15 shorthand, at the offices of Gibson, Dunn & Crutcher  
16 LLP, Suite 1100, 2100 McKinney Avenue, in the City of  
17 Dallas, County of Dallas, State of Texas, pursuant to  
18 Notice and the Federal Rules of Civil Procedure.

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1	<u>I N D E X</u>	
2	<u>WITNESS</u>	<u>PAGE</u>
3	SUZANNE SAVILLE	
4	EXAMINATION BY MR. LUTZ	6
5	EXAMINATION BY MR. ALVAREZ	94
6	EXAMINATION BY MR. LUTZ	94
7	EXAMINATION BY MR. OXFORD	98
8		
9	REPORTER'S CERTIFICATION	101
10		
11	<u>EXHIBITS</u>	<u>IDENTIFIED</u>
12	Exhibit 1 - Notice of Rule 30(b)(6) Deposition	
13	of Lead Plaintiff Nursing Homes and	
	Related Industries Pension Plan	7
14	Exhibit 2 - 4-25-11 Kosmos Energy Ltd.	
15	Form S-1/A	21
16	Exhibit 3 - 5-15-12 Certification of Named	
	Plaintiff Pursuant to Federal	
17	Securities Laws	51
18	Exhibit 4 - 9-15-13 Declaration of Suzanne	
	Saville in Support of Lead	
19	Plaintiff's Motion for Class	
	Certification	56
20	Exhibit 5 - 6-23-11 NHRIPP Statement of	
21	Investment Policies and Procedures	61
22	Exhibit 6 - 12-31-11 Annual Report	71
23	Exhibit 7 - 12-31-11 Allianz - Global Equity	74
24	Exhibit 8 - 12-31-11 NHRIPP Investment	
	Performance Review	88
25		

1 Q. Anybody else --

2 A. No.

3 Q. -- who is associated with NHRIPP who is more  
4 knowledgeable --

5 A. No.

6 Q. -- than you about any of these topics?

7 A. No.

8 Q. If you could just let me finish the question,  
9 just for purposes of the record.

10 Just one more topic I'd like to direct  
11 your attention to, which is 21. Any criminal or  
09:13:59 12 regulatory investigations or proceedings you or any of  
13 your current or former officers, directors,  
14 representatives, affiliates or agents have been  
15 involved with at any time.

16 Do you see that?

17 A. Number 21?

18 Q. Yes.

19 A. None. None.

20 Q. So the question is are you knowledgeable to  
21 testify as to that topic?

22 A. Yes.

23 Q. Who is Chris Tong?

24 A. Who?

25 Q. Chris Tong.

1 A. I don't know that name.

09:14:29 2 Q. What about Christopher Wright?

3 A. No, I don't know that name.

4 Q. NHRIPP is the lead plaintiff in this case,  
5 right?

6 A. Correct.

7 Q. What does it mean to be a lead plaintiff in a  
8 litigation?

9 A. The lead plaintiff, we've lost the largest  
10 amount of money so we want to pursue this case and  
11 attempt to recoup our losses.

09:15:04 12 Q. Do you understand the concept of a lead  
13 plaintiff, what that means for purposes of class  
14 action litigation?

15 MR. ALVAREZ: Objection; calls for a  
16 legal conclusion, but you can answer if you understand  
17 his question.

18 A. We direct the actions towards the case. We  
09:15:23 19 keep informed of all proceedings that are discussed,  
20 also, with our legal counsel from the NHRIPP. We want  
21 to pursue, to be reimbursed for all our losses.

22 Q. (By Mr. Lutz) NHRIPP is a plaintiff in this  
23 case, right?

24 A. That's right.

25 Q. And you're suing defendants in this case?

1 MR. ALVAREZ: Objection; lacks  
2 foundation.

3 You can answer if you know.

4 A. I don't know that.

09:24:31 5 (Exhibit No. 2 marked.)

6 Q. (By Mr. Lutz) The court reporter has handed  
7 you what's been marked as Exhibit 2. Exhibit 2 is a  
8 Form S-1/A filed on April 25th, 2011. Are you  
9 familiar with this document, Ms. Saville?

10 A. No.

11 MR. ALVAREZ: And take your time. I  
09:25:00 12 mean, it's a lengthy document.

13 THE WITNESS: The whole thing?

14 MR. ALVAREZ: Well, he's asking you about  
15 it.

16 THE WITNESS: Oh.

17 Q. (By Mr. Lutz) You can take as much time to  
18 generally familiarize yourself with the document. I  
19 will be asking you some questions about it.

20 The first question is whether you have  
09:25:21 21 ever reviewed this document before?

22 A. I have never seen this document.

23 Q. Do you know whether this document is related  
24 to the litigation?

25 MR. ALVAREZ: Objection. She testified

1 produced.

2 THE WITNESS: I think another point of  
3 clarification on my part, is I think you asked the  
4 question when did you become aware of the problem, and  
5 I may have said 2011. It would have been 2012 because  
12:03:26 6 Kosmos started production 2010. They put out their  
7 prospective was 2011, I think around May, and the  
8 problems didn't start coming out, after reading all  
9 the material, until late 2011, so we wouldn't have  
10 been aware of it until 2012.

11 MR. OXFORD: I'm sorry. Who, did you say  
12 who?

13 THE WITNESS: The board wouldn't have  
12:03:58 14 been aware of the problems until 2012.

15 MR. OXFORD: Okay.

16 THE WITNESS: It was my mistake in all  
12:04:04 17 these year dates and my nervousness.

18 Q. (By Mr. Lutz) Did the price of Kosmos stock  
19 that you held decline after you bought it?

20 A. Not that I'm aware of. If you're talking  
21 about a time period, I'm not aware of any decline. In  
22 reading the materials, I know we bought at 18.

23 Q. But you're not aware of any decline?

24 A. During a certain period?

25 Q. During any period.

1 A. No.

12:04:59 2 Q. Let's go to --

3 (Exhibit No. 8 marked.)

4 Q. (By Mr. Lutz) Exhibit 8 has been handed to  
5 you. It's a document bearing the Bates number ending  
6 in 171. It's called Nursing Homes and Related  
12:05:27 7 Industries Pension Plan Investment Performance Review  
8 dated December 31, 2011. This is an Eckler-created  
9 document, it appears.

10 Are you generally familiar with this  
11 document?

12 A. Yes.

13 Q. Can you describe, in general terms, what this  
14 document is?

15 A. This would have been a document that would  
16 have been produced by Jason and Greg from Eckler.

12:05:59 17 Q. And --

18 A. That we do a highlight review of.

19 Q. To whom was this document provided?

20 A. To the board of trustees.

21 Q. Can I direct your attention, please, to page  
22 24? Page 24 is the page that I had provided to you as  
12:06:29 23 Exhibit 7. This is part of the fuller document now.

24 Can you describe what's listed on page  
25 24, please?

1 MR. ALVAREZ: Okay. And we made our  
2 objection with respect to that.

3 I just -- and that's fine.

4 But I do have a couple of questions.

5 EXAMINATION

6 BY MR. ALVAREZ:

7 Q. At what purchase price did the plan purchase  
8 the Kosmos stock during the IPO?

9 A. At \$18, approximately \$18.

12:22:29 10 Q. Was there a subsequent sale in 2011 of some  
11 stock -- some Kosmos stock by the plan?

12 A. Around November there was a sale, and the  
13 sale was at approximately \$14.

14 Q. Ultimately, did the plan sell its -- the rest  
15 of any Kosmos stock that it held?

16 A. Yes, it did.

17 Q. When was that?

12:22:59 18 A. Sometime in 2012.

19 Q. And at what purchase price, if you know -- or  
20 sale price?

21 A. Approximately \$9.

22 MR. ALVAREZ: I have no further  
23 questions.

24 MR. LUTZ: I have a couple.

25 EXAMINATION

1 as well.

2 MR. LUTZ: Okay.

12:29:30

3 MR. ALVAREZ: And you have the  
4 certification which indicates when the purchase was  
5 made, at what price, and at the date that it was sold  
6 as well.

7 MR. OXFORD: I do have some questions now  
8 in light of what's been happening here.

9 EXAMINATION

10 BY MR. OXFORD:

11 Q. I think in response to questions from  
12 Mr. Alvarez you said that the plan purchased stock at  
13 18, and there was a subsequent sale in November of  
14 2011 at approximately 14. Does that sound about  
15 right?

12:30:00

16 A. Approximately 14.

17 Q. What caused that decline in the stock price?

18 MR. ALVAREZ: Objection; lacks  
19 foundation.

20 A. I don't know that.

21 Q. (By Mr. Oxford) And then you said the  
22 plan -- something to the effect of the plan sold the  
23 rest of the stock in 2012 at approximately \$9?

24 A. Yes.

25 Q. What caused that further drop in the price of

**UNITED STATES DISTRICT COURT  
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_____	)	Case No. 3:12-cv-373-B
In re KOSMOS ENERGY LTD SECURITIES	)	
LITIGATION	)	
_____		

**Declaration of Glenn Hubbard**

**November 18, 2013**

## Table of Contents

I. QUALIFICATIONS .....	1
II. CASE BACKGROUND .....	3
III. ASSIGNMENT .....	6
IV. SUMMARY OF OPINIONS .....	7
V. LOSS CAUSATION.....	8
A. Event Study Methodology.....	8
B. Event Dates .....	10
C. Event Study Regression .....	21
VI. KOSMOS' PERFORMANCE RELATIVE TO THAT OF THE ENERGY INDUSTRY AND COMPARABLE COMPANIES .....	23
A. Kosmos' Stock Performance Relative to Comparable Companies.....	23
B. Kosmos' Beta Relative to the Market and Industry .....	24
VII. ANALYSTS' VIEWS OF THE PRODUCTION AT JUBILEE FIELD.....	25
A. Analysts' Commentary on the News Regarding Oil Production at Jubilee Field.....	26
B. Factors Other Than the Allegations Affected Kosmos' Stock Price or Analysts' Valuation of the Company during the Class Period.....	29
VIII. CONCLUSIONS.....	31

## **Declaration of Glenn Hubbard**

### **I. QUALIFICATIONS**

1. My name is Glenn Hubbard. I hold the Russell L. Carson Professorship in Finance and Economics in the Graduate School of Business of Columbia University, where I am also the Dean. In addition, I am a Professor of Economics in the Department of Economics of the Faculty of Arts and Sciences. At the National Bureau of Economic Research, I am a research associate in programs on corporate finance, public economics, industrial organization, monetary economics, and economic fluctuations and growth. I am an adviser to the President of the Federal Reserve Bank of New York. Prior to joining the Columbia faculty as Professor of Economics and Finance in 1988, I taught in the Department of Economics at Northwestern University. I have also served as Visiting Professor of Business Administration at Harvard Business School, John M. Olin Visiting Professor at the University of Chicago, Visiting Professor and Research Fellow of the Energy and Environmental Policy Center at the John F. Kennedy School of Government and John M. Olin Fellow at the National Bureau of Economic Research. I hold A.M. and Ph.D. Degrees in economics from Harvard University, and B.A. and B.S. degrees from the University of Central Florida, *summa cum laude*.

2. My professional work has centered on problems in finance, public economics, industrial organization, monetary economics, and natural resource economics. As an economist, I have examined the evolution and behavior of a wide range of firms and industries.

As part of my research, I have conducted peer reviewed event studies.<sup>1</sup> I have also conducted event studies that look at, among other things, the issue of economic materiality in several litigation matters. My testimony involving event studies has been accepted by the court.<sup>2</sup>

3. I have authored more than 100 research articles, edited a number of books, and authored leading textbooks on money and financial markets, intermediate macroeconomics, and principles of economics. From 2001 to 2003, I served as Chairman of the President's Council of Economic Advisers; over that time period, I also served as Chairman of the Economic Policy Committee for the Organization for Economic Cooperation and Development (OECD) in Paris. From 1991 to 1993, I served as Deputy Assistant Secretary (Tax Analysis) of the U.S. Department of Treasury, where I was responsible for economic analysis of tax policy, the administration's revenue estimates, and health care policy issues. I have also been an adviser or consultant to the Board of Governors of the Federal Reserve System, Social Security Administration, Congressional Budget Office, Federal Reserve Bank of New York, Internal Revenue Service, International Trade Commission, National Science Foundation, U.S. Department of Energy, and U.S. Department of the Treasury.

4. My *curriculum vitae*, which is attached as **Appendix A**, provides more biographical details and lists my writings. **Appendix B** lists the testimony that I have provided as an expert witness within the last four years.

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<sup>1</sup> See, for example, R. Glenn Hubbard and Darius Palia, "Benefits of Control, Managerial Ownership, and the Stock Returns of Acquiring Firms," *RAND Journal of Economics*, Vol. 26, No. 4, 1995, pp. 782-792; and R. Glenn Hubbard and Darius Palia, "A Reexamination of the Conglomerate Merger Wave in the 1960s: An Internal Capital Markets View," *Journal of Finance*, Vol. 54, No. 3, 1999, pp. 1131-1152.

<sup>2</sup> See, for example, *Parnes v. Bally Entm't Corp.*, 2001 Del. Ch. LEXIS 34 (Del. Ch. 2001).

## II. CASE BACKGROUND

5. This matter concerns a class action of persons who acquired the public stock of Kosmos Energy Ltd (“Kosmos”) in connection with Kosmos’ May 10, 2011 initial public offering (the “IPO”), the “Plaintiffs.” Plaintiffs allege that Kosmos made false and misleading statements in the company’s Registration Statement and Prospectus utilized in connection with the IPO.<sup>3</sup> Plaintiffs claim that Kosmos’ Registration Statement and Prospectus was misleading because it “repeatedly misrepresented the progress the Company was making in oil production at the Jubilee Field.”<sup>4</sup>

6. Kosmos is an independent oil and gas exploration and production company focusing on under-explored regions in Africa and South America.<sup>5</sup> At the time of the IPO, the company’s asset portfolio included discoveries and partially explored prospects in Ghana, Cameroon and Morocco.<sup>6</sup>

7. Jubilee Field was discovered in 2007 in the Ghanaian deepwater blocks. Kosmos entered into a partnership with other oil and gas exploration and production companies, including Anadarko Petroleum Corp. (“Anadarko”), Tullow Oil PLC (“Tullow”), and Ghana National Petroleum Corporation (“GNPC”) for the development and operation of Jubilee Field. As of May 10, 2011, Kosmos, Tullow, Anadarko, and GNPC held approximately 23.5%, 34.7%, 23.5% and 13.75% unit participation interest, respectively, in Jubilee Field. Kosmos is

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<sup>3</sup> Consolidated Complaint, *In re Kosmos Energy Ltd Securities Litigation*, Consolidated Civil Action No. 3:12-cv-373-B, December 10, 2012 (“Consolidated Complaint”), ¶¶ 1 and 34.

<sup>4</sup> Consolidated Complaint, ¶35.

<sup>5</sup> Kosmos Energy Ltd., Prospectus Form 424B1, dated May 10, 2011 and filed on May 12, 2011 (“Kosmos’ Prospectus”), p. 1; and Kosmos Energy Ltd., Form 10-K for the fiscal year ended December 31, 2011, p. 7.

<sup>6</sup> Jubilee Field was Kosmos’ main development project. As of the IPO, Kosmos was in the process of submitting a notice to Ghana’s Ministry of Energy to declare Mahogany East, one of its discoveries, as commercially viable. (Kosmos’ Prospectus, pp. 1-3.)

the technical operator for development of Jubilee Field, and Tullow is the unit operator of the Jubilee Unit. The technical operator plans and executes the development of the unit, whereas the unit operator manages the day-to-day production operations of the unit.<sup>7</sup>

8. Oil production from Jubilee Field commenced on November 28, 2010, and Kosmos received its first oil revenues in early 2011.<sup>8</sup> During the period from its IPO through the filing date of the first complaint (January 10, 2012) (the “Class Period”),<sup>9</sup> all of Kosmos’ proved reserves and oil production were in Jubilee Field, making the field its only source of oil and gas revenues.<sup>10</sup>

9. In its Registration Statement and Prospectus, Kosmos estimated that it expected “gross oil production from the Jubilee Field to reach... 120,000 barrels of oil per day (‘bopd’) in the third quarter of 2011.”<sup>11</sup> According to Plaintiffs, there was no reasonable basis for Kosmos’ production forecast of 120,000 bopd.<sup>12</sup> Specifically, Plaintiffs assert the following:

- a. Oil production from Jubilee Field was consistently below Kosmos’ expectations between year-end 2010 and the IPO date.<sup>13</sup>
- b. As of the IPO, there were several indicators which suggested that Jubilee Field would not realize 120,000 bopd in 2011. Specifically, (i) the total

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<sup>7</sup> Kosmos’ Prospectus, pp. 115-116.

<sup>8</sup> Kosmos’ Prospectus, p. 1.

<sup>9</sup> I note that Plaintiffs have identified no end date for the putative class period. I use January 10, 2012, as the closing date of the Class Period because that is the date on which the first complaint in this action was filed. (Class Action Petition for Violation of the Securities Act of 1933, *Matthew A. Brady vs. Kosmos Energy Ltd, et al.*, January 10, 2012.)

<sup>10</sup> Kosmos’ Prospectus, p. 8; and Kosmos Energy Ltd., Form 10-K for the fiscal year ended December 31, 2011, p. 83.

<sup>11</sup> Kosmos’ Prospectus, p. 1.

<sup>12</sup> Consolidated Complaint, ¶38.

<sup>13</sup> Consolidated Complaint, ¶36.

rate of Jubilee oil production had not increased since year-end 2010; (ii) the five wells that were online as of the IPO were underperforming their projected flow rates by 20%-50%; (iii) in 2010, a structural failure had occurred at one of the wells which delayed the production schedule by two months; (iv) the design of the Jubilee wells was defective; and (v) extensive rig maintenance during April and May 2011 had delayed the production schedule.<sup>14</sup>

- c. The reported production rates for two of the five producing Jubilee wells (J-08 and J-09) as of the IPO were misleading. In the Registration Statement and Prospectus, Defendants disclosed the drillstem test rates at these two wells, which were used to predict how much oil a well would produce, and omitted the actual oil production rates of these wells, which were lower than the test rates.<sup>15</sup>

10. According to Plaintiffs, production problems at Jubilee Field were only disclosed after the IPO, and the production target of 120,000 bopd at Jubilee Field was not met in the third quarter 2011. For example, at the beginning of the third quarter 2011, one of Kosmos' partners at Jubilee Field revealed that oil production from the field was 40,000 barrels below the projected 120,000 bopd.<sup>16</sup> On August 11, 2011, Kosmos stated that Jubilee production was 80,000 bopd.<sup>17</sup> Plaintiffs claim that the "now-public production problems at Jubilee

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<sup>14</sup> Consolidated Complaint, ¶¶36 and 40.

<sup>15</sup> Consolidated Complaint, ¶¶41-42.

<sup>16</sup> Consolidated Complaint, ¶43.

<sup>17</sup> "Kosmos Energy Announces Second-Quarter 2011 Results and Provides Operational Update," *Business Wire*, August 11, 2011, 8:00AM.

omitted from the Registration Statement” caused significant delays, remediation expenses, revenue losses, and, hence, stock declines.<sup>18</sup>

### III. ASSIGNMENT

11. I have been retained by Susman Godfrey LLP (“Counsel”), counsel for certain of the Defendants in this matter, to:

- a. Examine relevant issues related to loss causation and damages subject to Plaintiffs’ claims;<sup>19</sup>
- b. Assess the general market reaction to news relating to production delays or lower than expected production at Jubilee Field; and,
- c. Analyze the performance of Kosmos’ common stock during the Class Period.

12. I am being compensated for my time in this matter at my standard billing rate of \$1,200 per hour. Employees of Analysis Group, Inc. working under my direction have assisted me in preparing this declaration. I also receive a portion of the fees received by Analysis Group, Inc. for work performed in conjunction with my assignment in this matter. My compensation in this matter is not contingent upon my findings or the outcome of this litigation. The materials that I, and those working under my direction, have relied upon in my analysis are listed in **Appendix C** of this declaration. My work on this matter is ongoing, and I may review additional materials or conduct further analysis. I reserve the right to update, refine, or revise my opinion.

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<sup>18</sup> Consolidated Complaint, ¶¶5-6.

<sup>19</sup> It is my understanding that I will be asked to submit a rebuttal report in response to expert reports filed on behalf of Plaintiffs. I reserve my right to respond to Plaintiffs’ report(s) and to respond to additional arguments and data made available in Plaintiffs’ report(s).

#### IV. SUMMARY OF OPINIONS

13. Based on my research and analysis to date, it is my opinion that:

- a. The declines in Kosmos' stock price during the Class Period were not caused by disclosures of information relating to oil production at the Jubilee Field, but rather were a consequence of market and industry conditions and other unrelated company-specific news.
- b. Kosmos' stock performance during the Class Period was consistent with the price movements of its comparable companies.
- c. There are no damages under Plaintiffs' claims. Furthermore, I have seen no evidence of a statistically sound methodology that could demonstrate class-wide damages arising from the allegations in the complaint.

14. I provide the bases for these opinions in the remainder of my declaration. In Section V, I conduct an event study to assess the reaction of Kosmos' stock price to news related to oil production at Jubilee Field. My analysis shows that Kosmos' stock price did not react in a statistically significant way to news about oil production at Jubilee Field. My analysis is confirmed by my analyses and findings in Sections VI and VII. In Section VI, I analyze the performance of Kosmos' stock price in comparison with its comparable companies. I find that the overall performance of Kosmos' stock over the Class Period is consistent with that of its comparable companies. In Section VII, I examine equity analysts' commentary about the disclosures at issue. Consistent with my findings in the event study analysis, the production delays at Jubilee Field had little impact on the value ascribed to Kosmos by equity analysts. Lastly, in Section VIII, I conclude that, based on the evidence presented in my declaration, there are no damages arising from Plaintiffs' claims.

## **V. LOSS CAUSATION**

15. Plaintiffs' claim that the "now-public production problems at Jubilee omitted from the Registration Statement"<sup>20</sup> caused significant delays, remediation expenses, revenue losses, and, hence, stock declines.<sup>21</sup> However, I have seen no evidence from Plaintiffs or otherwise that the post-IPO disclosures regarding production at Jubilee Field caused losses to the holders of Kosmos' common stock, as Plaintiffs allege in their complaint. In fact, as set out below, the price of Kosmos' common stock did not react in a statistically meaningful way to any such disclosures. In other words, the disclosure of information relating to production issues at the Jubilee field—information that Plaintiffs allege should have been but was not disclosed in Kosmos' Registration Statement and Prospectus—did not cause any declines in Kosmos' stock price.

16. In this section, I analyze loss causation with respect to Plaintiffs' claims using a well-accepted approach – the event study analysis. First, I describe the event study methodology and the steps involved. I then identify dates during the Class Period on which there were public reports concerning the production at Jubilee Field. Lastly, I conduct an event study regression analysis to assess the effect of the public disclosures on these dates on the price of Kosmos' common stock, and I present the statistical results.

### **A. Event Study Methodology**

17. An event study is a generally accepted approach for estimating the effect of a particular piece of news on a company's security price. Event studies are used by researchers

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<sup>20</sup> Plaintiffs define the Registration Statement as including both the Registration Statement and the Prospectus. (Consolidated Complaint, ¶1.)

<sup>21</sup> Consolidated Complaint, ¶¶5-6.

in a variety of contexts. In accounting and economics, specifically, event studies have been applied to a variety of firm-specific and economy-wide events.<sup>22</sup> Event studies are also used to assess the economic materiality of information and to assess damages in legal proceedings.<sup>23</sup> On a given day, a security's price responds to a wide range of information, including market- and industry-wide conditions as well as company-specific news. The event study is used to isolate the part of the price movement that is potentially attributable to a specific disclosure, event or events.

18. An event study consists of several steps.<sup>24</sup> The first step is to define and identify the event(s). This step requires a qualitative assessment of the content and timing of news related to the relevant event or events—in this case, the allegations in Plaintiffs' complaint. Depending on the results of this step, a formal statistical analysis might be contemplated. If no relevant event dates are found, then the event study will conclude with this step.

19. The second step of the event study is to model the price reaction of the security to the event(s) in question. After the relevant event dates are identified, the analyst specifies a regression model to estimate the relationship between the security's returns and the returns of the overall market and the industry. The difference between the security's actual return on the event date and the predicted return estimated from the regression model is referred to as the residual return.

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<sup>22</sup> "Some examples include mergers and acquisitions, earnings announcements, issues of new debt or equity, and announcements of macroeconomic variables such as the trade deficit." John Campbell, Andrew Lo, and A. Craig MacKinlay, *The Econometrics of Financial Markets*, Chapter 4, Second edition, Princeton University Press, 1997, p. 149.

<sup>23</sup> See, for example, A. Craig MacKinlay, "Event Studies in Economics and Finance," *Journal of Economic Literature*, Vol. 35, No. 1, March 1997, pp. 13 and 37; and Mark L. Mitchell and Jeffrey M. Netter, "The Role of Financial Economics in Securities Fraud Cases: Applications at the Securities and Exchange Commission," *The Business Lawyer*, Vol. 49, February 1994, p. 550.

<sup>24</sup> John Campbell, Andrew Lo, and A. Craig MacKinlay, *The Econometrics of Financial Markets*, Chapter 4, Second edition, Princeton University Press, 1997.

20. The residual return is tested to determine whether it is statistically significantly different from zero. A statistically significant residual return means that the return is greater or less than expected, given the observed changes in the market and industry, and the security's sensitivity to the market and industry. In the context of loss causation, if the residual return is *not both negative and statistically significant*, then there is no evidence that the information released on that date (or event) caused damage, as measured by a decline in the publicly traded security's price.

## **B. Event Dates**

21. To identify the "corrective" event dates, I conducted an extensive search for relevant information about production at Jubilee Field from a variety of sources, including news articles, press releases, conference calls, and SEC filings. **Exhibit 1** summarizes my review of the news that discussed Kosmos or Jubilee Field during the Class Period.<sup>25</sup> I refer to a disclosure as "corrective" if it conveys "new" news to the market. I also reviewed 45 reports covering Kosmos from equity analysts at Barclays, Citi, Credit Suisse, Deutsche Bank, Howard Weil, International Strategy and Investment Group ("ISI"), Jefferies, RBC, Societe Generale, Standard Bank, and Tudor Pickering Holt. These analyst reports provide insights into Kosmos' business, analysts' views on factors affecting Kosmos' stock value, and analysts' evaluation of the impact of production at Jubilee Field on Kosmos' stock price.

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<sup>25</sup> I conducted the news search using the key word "Kosmos" from top sources identified by Factiva, including "Dow Jones Newswires," "Major News and Business Publications," "Press Release Wires," "Reuters Newswires," and "The Wall Street Journal – All Resources," during the Class Period. Because Tullow, Anadarko, and GNPC are Kosmos' major partners at Jubilee Field, I also used keywords "Tullow and Jubilee" or "Anadarko and Jubilee" or "Jubilee and Ghana National Petroleum Company/GNPC" in my Factiva news search. Further, I conducted a news search on Bloomberg News, using the key words "Jubilee" or "Kosmos." In addition, I reviewed Kosmos', Tullow's and Anadarko's conference calls, regulatory filings, and company press releases during the entire Class Period.

**i. Kosmos' Forecasted Production at Jubilee Field as of the IPO Date Was Consistent with Forecasts Made by Other Partners at Jubilee Field**

22. Kosmos' forecasted oil production at Jubilee Field as of the IPO was in accordance with forecasts released by Tullow and Anadarko. For example, on May 12, 2011, Tullow reported that "[p]lateau production of 120,000 bopd is expected to be reached *in July* as the remaining four production wells are completed and brought on line."<sup>26</sup> This news was confirmed by Anadarko on May 25, 2011: "the massive Jubilee field off the coast of Ghana is on track to reach peak production of 120,000 barrels of oil per day *by the end of summer*."<sup>27</sup>

**ii. Production Risks Were Disclosed by Kosmos in the IPO Prospectus**

23. The Prospectus disclosed the risk that actual results could be different from forecasts. It stated that "[Kosmos'] actual future results may be materially different from what [it] expect[s]"<sup>28</sup> and that, although "estimates and forward-looking statements are based upon reasonable assumptions, they are subject to several risks and uncertainties and are made in light of information currently available to [Kosmos]."<sup>29</sup>

24. Kosmos' Prospectus included approximately 30 pages of risk disclosures, among which Kosmos disclosed several risks related to the rate of oil production.<sup>30</sup> Those risks were associated with working interest, operatorship, ownership, and geographical structure of the production areas, among others. Kosmos stated that it would not be able to control the rate of production in any areas where it did not hold all of the working interest or ownership, or it was

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<sup>26</sup> "Interim Management Statement," Tullow Press Release, May 12, 2011 (emphasis added).

<sup>27</sup> "Anadarko: Ghana's Jubilee To Produce 120,000 B/D By End Of Summer," *Dow Jones*, May 25, 2011, 9:21AM (emphasis added).

<sup>28</sup> Kosmos' Prospectus, p. 46. (Bracketed text added for clarification.)

<sup>29</sup> Kosmos' Prospectus, p. 46. (Bracketed text added for clarification.)

<sup>30</sup> Kosmos' Prospectus, pp. 17-45.

not the operator. The company also made clear that there were significant additional risks associated with operating in deepwater. For example, according to Kosmos' Registration Statement and Prospectus:

- a. "We are not, and may not be in the future, the operator on all of our license areas and do not, and may not in the future, hold all of the working interests in certain of our license areas. Therefore, *we will not be able to control the timing of exploration or development efforts, associated costs, or the rate of production of any non-operated and to an extent, any non-wholly owned, assets.*"<sup>31</sup>
- b. "Further, because we do not have majority ownership in all of our properties we may not be able to control the timing of exploration or development activities or the amount of capital expenditures and, therefore, may not be able to carry out one of our key business strategies of minimizing the cycle time between discovery and initial production. The success and timing of exploration and development activities operated by our block partners will depend on *a number of factors that will be largely outside of our control, including:... the rate of production of reserves, if any.*"<sup>32</sup>
- c. "We are subject to numerous risks inherent to the exploration and production of oil and natural gas... many of our license areas are located in deepwater, which generally *increases* the capital and operating costs,

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<sup>31</sup> Kosmos' Prospectus, p. 21 (emphasis added).

<sup>32</sup> Kosmos' Prospectus, pp. 21-22 (emphasis added).

*chances of delay, planning time, technical challenges and risks associated with oil and natural gas exploration and production activities.”*<sup>33</sup>

- d. “Deepwater exploration generally involves greater operational and financial risks than exploration in shallower waters. Deepwater drilling generally requires more time and more advanced drilling technologies, involving a higher risk of equipment failure and usually higher drilling costs. In addition, there may be production risks of which we are currently unaware. If we participate in the development of new subsea infrastructure and use floating production systems to transport oil from producing wells, these operations may require substantial time for installation or encounter mechanical difficulties and equipment failures that could result in significant liabilities, cost overruns or delays.”<sup>34</sup>

25. Thus, in light of these and other risks associated with deepwater drilling, Kosmos disclosed that “[a]ctual future production... and quantities of recoverable oil and natural gas reserves will vary from our estimates.”<sup>35</sup>

**iii. Disclosures during the Class Period Related to Production at Jubilee Field**

26. I identified 14 dates during the Class Period on which there were (i) conference calls or press releases issued by Kosmos, Tullow, Anadarko, or GNPC concerning negative

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<sup>33</sup> Kosmos’ Prospectus, p. 26 (emphasis added).

<sup>34</sup> Kosmos’ Prospectus, p. 28.

<sup>35</sup> Kosmos’ Prospectus, p. 22.

news about Jubilee Field's production,<sup>36</sup> or (ii) "new" negative news about production at the field from news sources other than Kosmos', Tullow's, Anadarko's, and GNPC's announcements. Some of the disclosures on these 14 dates did not contain "new" news.<sup>37</sup> Nonetheless, I analyzed the effect of these disclosures on Kosmos' stock price in the event study regression. Below is a brief summary of the news on the identified dates.

27. Kosmos' announcements regarding production at Jubilee Field and other related news:

- a. May 13, 2011 (Friday – 2:22PM<sup>38</sup>): Kosmos' CEO stated that the Jubilee Field pumped an average of 70,000 bpod in April and would reach 120,000 bpod "late in the third quarter" of 2011<sup>39</sup> (as opposed to "in the third quarter of 2011," as disclosed in the Prospectus<sup>40</sup>).
- b. August 11, 2011 (Thursday – 11:00AM): Kosmos indicated that Jubilee Field's potential plateau production was targeted for "around the end of

<sup>36</sup> As of the beginning of the Class Period, the partners of Jubilee Field announced their expectations about the timing of when Jubilee Field would reach its oil production target of 120,000 bopd in a slightly different ways.

<sup>37</sup> Production delays at Jubilee Field were publicly disclosed prior to the IPO date. For example, on March 9, 2011, two months before the IPO, Tullow disclosed that, "[t]he ramp up of Jubilee is still taking longer than expected. Tullow initially hoped to hit 120,000 barrels a day from the field within three to six months of the November startup. The company said in January that it would take six months to hit plateau output at the field and has just extended that timetable again, saying it will take another five months to hit full production." ("UPDATE: Tullow: 2nd Ghana Oil Project Could Produce 125,000B/D," *Dow Jones International News*, March 9, 2011, 2:35AM.) This announcement indicates that, as of March 2011, plateau production at Jubilee Field was estimated to be reached around August 2011; hence, some of the disclosures on the 14 identified event dates did not contain new information.

<sup>38</sup> All "time" in my declaration refers to Eastern Time.

<sup>39</sup> "Kosmos Ready for New Role as Producer in West Africa, CEO Says," *Bloomberg News*, May 13, 2011, 2:22PM (emphasis added).

<sup>40</sup> Kosmos' Prospectus, p. 1.

*the year.*”<sup>41</sup> The delay in ramping up was attributed to: (i) “a significant amount of rig maintenance;” (ii) “operational challenges on commissioning both the water injection system and the gas injection system;” and (iii) completion-related problems at one or two wells, one of which might require sidetracking.<sup>42</sup>

- c. November 10, 2011 (Thursday – 11:00AM): During a quarterly conference call, Kosmos indicated that Jubilee Field was producing at about 80,000 bopd and the production plateau would be reached “*towards the end of next year [2012]*.”<sup>43</sup> In addition to the same issues disclosed in August 2011, Kosmos also disclosed that there was a reduction in productivity in a number of wells due to less than optimal well completion design. Kosmos’ management said that new completion designs would be implemented and although no estimation of the remediation costs was provided, it was noted that the production issues would not impact the ultimate reserves at Jubilee.<sup>44</sup>
- d. November 15, 2011 (Tuesday –3:35PM): Kosmos reported that the production issues at Jubilee Field were not related to the reserves, which

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<sup>41</sup> “KOS – Q2 2011 Kosmos Energy Ltd Earnings Conference Call,” *Thomson StreetEvents*, August 11, 2011, 11:00AM, p. 12 (emphasis added).

<sup>42</sup> “KOS – Q2 2011 Kosmos Energy Ltd Earnings Conference Call,” *Thomson StreetEvents*, August 11, 2011, 11:00AM, p. 12. Sidetracking is an engineering remediation of wells. (See, for example, “KOS – Q2 2011 Kosmos Energy Ltd Earnings Conference Call,” *Thomson StreetEvents*, August 11, 2011, 11:00AM, p. 13.)

<sup>43</sup> “KOS – Q3 2011 Kosmos Energy Ltd Earnings Conference Call,” *Thomson StreetEvents*, November 10, 2011, 11:00AM, pp. 4 and 11 (emphasis added). (Bracketed text added for clarification.)

<sup>44</sup> “KOS – Q3 2011 Kosmos Energy Ltd Earnings Conference Call,” *Thomson StreetEvents*, November 10, 2011, 11:00AM, pp. 2, 4, and 9.

was important from a net asset value (“NAV”) standpoint.<sup>45</sup> Some of the issues related to rig maintenance and commissioning of the water and gas injection systems were resolved but other “unusual” mechanical problems had arisen which contributed to delays. Fines, which are clays within the reservoir, were being produced with oil and blocking the oil from flowing as freely as expected.<sup>46</sup>

- e. December 13, 2011 (Tuesday – 3:21PM): Business Wire reported that Zeldes & Haeggquist, LLP started an investigation “to determine whether [Kosmos] ha[d] violated securities laws by issuing false and misleading statements” regarding its oil wells and business prospects in West Africa.<sup>47</sup>

28. Tullow’s announcements regarding production at Jubilee Field and other related news:

- a. June 13, 2011 (Monday – 11:28AM): Tullow’s Chief Operating Officer, Paul McDave, stated that Jubilee production “was expected to ramp up to 120,000 barrels per day *by August*,” from the current level of 77,000 barrels per day<sup>48</sup> (as opposed to Tullow’s statement on May 12, 2011 that

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<sup>45</sup> NAV is one of the key metrics used by analysts to assess Kosmos’ stock value.

<sup>46</sup> “KOS – Kosmos Energy Ltd at Bank of America Merrill Lynch Global Energy Conference,” *Thomson StreetEvents*, November 15, 2011, 3:35PM, pp. 7-8.

<sup>47</sup> “Zeldes & Haeggquist, LLP Announces Investigation of Kosmos Energy, Inc. - KOS,” *Business Wire*, December 13, 2011, 3:21PM. (Bracketed text added for clarification.)

<sup>48</sup> “UPDATE 1-Tullow's Ghana listing seen likely oversubscribed,” *Reuters*, June 13, 2011, 11:28AM (emphasis added).

“[p]lateau production of 120,000 bopd is expected to be reached in July”<sup>49</sup>).

- b. June 17, 2011 (Friday – 6:36AM): Reuters reported that a provisional loading program showed that, *by August 2011*, Jubilee Field would load only 92,000 bopd, which was below Tullow’s projected level of 120,000 bopd.<sup>50</sup>
- c. July 5, 2011 (Tuesday – 2:00AM): A Tullow press release stated that the plateau production of 120,000 bopd at Jubilee Field was “expected to be reached *in August*.”<sup>51</sup> It explained that previous delays in the production ramp-up at Jubilee “ha[d] been caused by the requirement for extended Blow Out Preventer maintenance on the Eirik-Raude rig, a delay in commissioning the third water injection pump and extra work required to fully commission the gas compression system.”<sup>52</sup> The Jubilee Field was performing as anticipated and the water injection and gas compression were fully commissioned.<sup>53</sup>

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<sup>49</sup> “Tullow Oil PLC Interim Management Statement,” *Regulatory News Service*, May 12, 2011, 2:00AM.

<sup>50</sup> “UPDATE 1-Ghana Aug oil output to rise, cargoes delayed,” *Reuters*, June 17, 2011, 6:36AM.

<sup>51</sup> “Tullow Oil PLC Trading Update,” *Regulatory News Service*, July 5, 2011, 2:00AM (emphasis added). *See also*, “TLW.L – Tullow Oil plc Trading Statement and Operational Update Conference Call,” *Thomson StreetEvents*, July 5, 2011, 4:00AM, p. 3.

<sup>52</sup> “Tullow Oil PLC Trading Update,” *Regulatory News Service*, July 5, 2011, 2:00AM. (Bracketed text added for clarification.)

<sup>53</sup> “Tullow Oil PLC Trading Update,” *Regulatory News Service*, July 5, 2011, 2:00AM. *See also*, “TLW.L – Tullow Oil plc Trading Statement and Operational Update Conference Call,” *Thomson StreetEvents*, July 5, 2011, 4:00AM, p. 3.

- d. July 7, 2011 (Thursday – 9:50AM): According to Tullow, Jubilee Field might “reach peak production *in August or September*,”<sup>54</sup> a month later than planned. Output had reached 80,000 bopd since the beginning of July.<sup>55</sup>
- e. August 24, 2011 (Wednesday – 4:00AM): Tullow reported that the production delays at Jubilee were caused by: (i) water injection issues, (ii) additional Blow Out Preventer maintenance, and (iii) sidetracking of well J-07, which might cost approximately \$80 million. At the time, Jubilee was producing around 85,000 barrels per day and was expected to reach 105,000 barrels per day in October when the J-06 well was scheduled to come online. The plateau production of 120,000 barrels per day at Jubilee was expected by the end of 2011.<sup>56</sup> Additionally, Tullow revised its full-year 2011 guidance for oil production downward.<sup>57</sup>
- f. November 9, 2011 (Wednesday – 2:28AM): Tullow announced that it expected Jubilee Field to reach full production “*some time in 2012*” and not by the end of 2011 as previously disclosed.<sup>58</sup> The company further stated that “a longer-than-anticipated production ramp-up could increase

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<sup>54</sup> “Ghana’s Jubilee to Reach Peak Oil Output Later Than Planned (1),” *Bloomberg News*, July 7, 2011, 9:50AM (emphasis added).

<sup>55</sup> “Ghana’s Jubilee to Reach Peak Oil Output Later Than Planned (1),” *Bloomberg News*, July 7, 2011, 9:50AM.

<sup>56</sup> “TLW.L – H1 2011 Tullow Oil plc Earnings Conference Call (UK),” *Thomson StreetEvents*, August 24, 2011, 4:00AM, p. 5.

<sup>57</sup> “TLW.L – H1 2011 Tullow Oil plc Earnings Conference Call (UK),” *Thomson StreetEvents*, August 24, 2011, 4:00AM, p. 4. *See also*, “UPDATE: Tullow Surges On Higher Dividend, Another Ghana Oil Find,” *Dow Jones International News*, August 24, 2011, 5:46AM.

<sup>58</sup> “Tullow Now Sees Full Jubilee Output By 2012 Due To Well Issues,” *Dow Jones International News*, November 9, 2011, 2:28AM (emphasis added).

the project's development costs and reduce net equity production to the field's partners."<sup>59</sup>

29. Anadarko's announcements regarding production at Jubilee Field and other related news:

- a. October 31, 2011 (Monday – 5:50PM<sup>60</sup>): Anadarko announced that Jubilee Field had encountered mechanical issues related to completion techniques and that the current production was “*more than 85,000 barrels a day*”<sup>61</sup> (as opposed to an estimated October production level of 105,000 bopd, as announced by Tullow on August 24, 2011<sup>62</sup>).
- b. November 1, 2011 (Tuesday – 10:17AM): Anadarko disclosed that Jubilee Field was producing at 85,000 bopd, “significantly below” the 120,000 bopd target originally expected to be reached by the year end. The company stated that some of the wells might need to be reworked, potentially increasing the project's development costs. However, Anadarko noted that the issue was not associated with early depletion of the reservoir, but rather with well completion.<sup>63</sup>

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<sup>59</sup> “Tullow Now Sees Full Jubilee Output By 2012 Due To Well Issues,” *Dow Jones International News*, November 9, 2011, 2:28AM.

<sup>60</sup> The announcement was made after the market closed; therefore, the impact of the news, if any, would be reflected in the stock price on the next trading day, which was November 1, 2011.

<sup>61</sup> “Anadarko Reports \$3.1 Billion Loss on BP Spill Settlement (1),” *Bloomberg News*, October 31, 2011, 5:50PM (emphasis added).

<sup>62</sup> “TLW.L – H1 2011 Tullow Oil plc Earnings Conference Call (UK),” *Thomson StreetEvents*, August 24, 2011, 4:00AM, p. 5.

<sup>63</sup> “Anadarko CEO: Expects To Sell Brazilian Assets In 2012,” *Dow Jones News Service*, November 1, 2011, 10:17AM.

- c. November 15, 2011 (Tuesday – 9:00AM): Anadarko reported that Jubilee Field was producing “80,000 to 85,000 barrels a day from 9 wells”<sup>64</sup> (as opposed to the “more than 85,000 barrels a day” announced on October 31, 2011<sup>65</sup>). The company also confirmed that the delay in ramp-up at Jubilee Field was not associated with a reservoir problem.<sup>66</sup>
- d. December 6, 2011 (Tuesday – 9:00AM): Anadarko reported that, due to mechanical problems related to well completions, Jubilee was producing about “80,000 barrels a day from nine wells,” which was below its targeted peak level. The company also stated that the problems had been identified and would be addressed through sidetracking of the wells.<sup>67</sup>

30. GNPC’s announcement related to production at Jubilee Field:

- a. October 6, 2011 (Thursday - 8:01AM): The head of GNPC announced that Jubilee Field might not reach plateau production by the end of 2011 due to “technical challenges,” and that plateau production was targeted for early 2012.<sup>68</sup>

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<sup>64</sup> “APC - Anadarko Petroleum Corp at Bank of America Merrill Lynch Global Energy Conference,” *Thomson StreetEvents*, November 15, 2011, 9:00AM, p. 10 (emphasis added).

<sup>65</sup> “Anadarko Reports \$3.1 Billion Loss on BP Spill Settlement (1),” *Bloomberg News*, October 31, 2011, 5:50PM.

<sup>66</sup> “APC - Anadarko Petroleum Corp at Bank of America Merrill Lynch Global Energy Conference,” *Thomson StreetEvents*, November 15, 2011, 9:00AM, pp. 9-10.

<sup>67</sup> “APC – Anadarko Petroleum Corp at Capital One Southcoast, Inc Energy Conference,” *Thomson StreetEvents*, December 6, 2011, 9:00AM, p. 4 (emphasis added).

<sup>68</sup> “EXCLUSIVE-UPDATE 4-Ghana oil target likely delayed again –GNPC,” *Reuters*, October 6, 2011, 8:01AM.

## C. Event Study Regression

### i. Regression Model Specifications

31. As explained above, I use an event study regression to determine what portion of Kosmos' stock returns are attributable to market and industry effects, so that these price movements can be isolated and removed on the event dates. Specifically, I employ a market model, regressing Kosmos' stock returns on: (i) a constant term, (ii) the returns of the overall stock market, and (iii) the returns of the comparable energy companies. I use the S&P 500 Total Return Index as a proxy for the overall market. To control for the industry effects, I construct a market capitalization-weighted custom peer index (the "Market Capitalization-Weighted Custom Peer Index"), which includes 15 U.S. companies that are comparable to Kosmos.<sup>69</sup>

32. I also use in the regression indicator variables, each of which receives a value of one on the event date and zero otherwise. Coefficients estimated for the indicator variables

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<sup>69</sup> Comparable firms are those that are identified as "comparable," "comp," or "peer" firms in analysts' reports covering Kosmos during the Class Period, including Barclays, Citi, Credit Suisse, Deutsche Bank, Howard Weil, ISI, Jefferies, RBC, Societe Generale, Standard Bank, and Tudor Pickering Holt. The 15 U.S. companies are Apache Corporation, Cobalt International Energy, Concho Resources, Devon Energy, Endeavour International, EOG Resources, Newfield Exploration, Noble Energy, Occidental Petroleum, Pioneer Natural Resources, QEP Resources, Range Resources, Rosetta Resources, Southwestern Energy, and Ultra Petroleum. Anadarko Petroleum was identified as a peer but I excluded it from the peer index construction because of its ownership interest in Jubilee Field. In addition, I excluded Chesapeake Energy, Denbury Resources, and Petrohawk Energy because they had unresolved securities-related litigation during the Class Period. I also did not include foreign comparable companies in the peer index construction because of complications that arise from non-synchronous trading. "Non-synchronous trading," which means that the trading time records are different for different securities, could potentially lead to bias in ordinary least squares (OLS) estimates. For example, if news affecting the aggregate market arrives after the close of the market on London Stock Exchange but before the close of the NYSE, it is likely that the news is reflected in the price of U.S. traded companies immediately. However, stock prices of U.K. traded companies likely will reflect this information on the next trading day. The fact that U.K. stock responds with a lag induces spurious cross-autocorrelation between daily returns of U.S. and U.K. companies' stock when calculated using closing prices. (See, John Campbell, Andrew Lo, and A. Craig MacKinlay, *The Econometrics of Financial Markets*, Chapter 3, Second edition, Princeton University Press, 1997, p. 84. See also, A. Craig MacKinlay, "Event Studies in Economics and Finance," *Journal of Economic Literature*, Vol. 35, No. 1, March 1997, pp. 35-36.) Furthermore, I excluded foreign companies from the peer index construction because foreign exchange rate conversion might unwarrantedly affect the foreign companies' stock returns and, hence, the resulting index.

measure the residual returns on those dates that cannot be explained by the market or the industry peers.

33. I estimated the models using the Ordinary Least Square (“OLS”) technique. In the event study regression, I used logarithmic daily returns for the period from May 11, 2011 through January 10, 2012, the end of the Class Period.<sup>70, 71</sup>

## **ii. Event Study Results**

34. As I show in **Exhibit 2**, none of the residual returns corresponding to the 14 event dates are both negative and statistically significantly different from zero.<sup>72</sup> This finding means that the disclosure of information about production issues at Jubilee Field following Kosmos’ IPO did not cause any declines in Kosmos’ stock price during the Class Period.

35. Given the event study results, I conclude that there is no economic evidence that the members of the putative class have been damaged as a result of the alleged misrepresentations and omissions Plaintiffs describe in their complaint.

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<sup>70</sup> I exclude the first trading day after the IPO (May 11, 2011) from the regression period because there is evidence suggesting the presence of unit root in the regression residuals when the first trading day is included. A unit root could potentially cause bias in OLS estimates, and therefore could lead to drawing incorrect conclusions from the regression results.

<sup>71</sup> I also run event study regressions including the first trading day. The event study results are similar to those when the first trading day is excluded.

<sup>72</sup> As sensitivities, I also run the event study regressions using an equally-weighted custom peer index (the “Equally-Weighted Custom Peer Index”) and the S&P 500 Energy Sector Total Return Index as proxies for the energy sector. **Appendices D1 and D2** show that my conclusion does not change based on the selection of a peer index. That is, none of the residual returns corresponding to the 14 event dates are both negative and statistically significantly different from zero. The same conclusion is drawn based on event study results when the first trading day is included.

## **VI. KOSMOS' PERFORMANCE RELATIVE TO THAT OF THE ENERGY INDUSTRY AND COMPARABLE COMPANIES**

36. In the previous section, I demonstrated that declines in Kosmos' stock price during the Class Period were not caused by disclosures of information related to production at the Jubilee Field. This conclusion is consistent with the fact that Kosmos' stock price performance was within the range of its peers' performance during the Class Period. Further, given Kosmos' beta, a measure of the sensitivity of its stock price to changes in economy-wide events (as measured by the market index), Kosmos' stock price performance is also consistent with the performance of both the broader market and the energy industry.

37. In this section, I provide an overview of Kosmos' stock price performance during the Class Period. I then provide evidence showing that Kosmos' stock price performance was consistent with that of its comparable companies and the S&P 500 Energy Sector Total Return Index.

### **A. Kosmos' Stock Performance Relative to Comparable Companies**

38. **Exhibit 3** shows Kosmos' unadjusted daily closing stock price during the Class Period. Over this period, Kosmos' stock price declined by 21 percent, or \$3.79, to \$14.21 on January 10, 2012 from its IPO price of \$18.00.

39. In **Exhibit 4**, I compare Kosmos' stock performance to the performance of companies that equity analysts covering Kosmos identified as being similar during the Class

Period (“Comparable Companies”).<sup>73,74</sup> As demonstrated in the exhibit, through January 10, 2012, Kosmos’ performance was within the distribution of the performance of its Comparable Companies.

40. Thus, the fact that Kosmos’ stock price performance is consistent with that of its peers further supports my conclusion that disclosures concerning production issues at Jubilee Field did not cause any declines in Kosmos’ stock price.

### **B. Kosmos’ Beta Relative to the Market and Industry**

41. **Exhibit 5** compares Kosmos’ stock price performance over the Class Period to the performance of: (i) the S&P 500 Total Return Index, (ii) the Market Capitalization-Weighted Custom Peer Index, (iii) the Equally-Weighted Custom Peer Index, and (iv) the S&P 500 Energy Sector Total Return Index. As the exhibit shows, the fluctuations in Kosmos’ stock price during the Class Period resemble the fluctuations of the market and industry. Generally, when the market and industry prices increase, Kosmos’ stock price also increases, and when the market and industry prices decrease, Kosmos’ stock price also decreases.

42. Kosmos’ stock price movements, however, appear to be larger than those of these indices (see **Exhibit 5**). This greater amplitude is consistent with Kosmos’ higher beta. A

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<sup>73</sup> Comparable firms are all U.S. and foreign companies that are identified as “comparable,” “comp,” or “peer” firms in analysts’ reports covering Kosmos by Barclays, Citi, Credit Suisse, Deutsche Bank, Howard Weil, ISI, Jefferies, RBC, Societe Generale, Standard Bank, and Tudor Pickering Holt during the Class Period. There are 29 such comparable firms, including Anadarko Petroleum, Apache Corporation, BowLeven, Cairn Energy, Canadian Natural Resources, Canadian Oil Sands, Cenovus Energy, Cobalt International Energy, Concho Resources, Devon Energy, EnCana, Endeavour International, EOG Resources, MEG Energy, Newfield Exploration, Nexen, Noble Energy, Occidental Petroleum, Pioneer Natural Resources, Premier Oil, QEP Resources, Range Resources, Rosetta Resources, Soco International, Southwestern Energy, Suncor Energy, Talisman Energy, Tullow Oil, and Ultra Petroleum.

<sup>74</sup> I excluded “penny stock” companies, including Afren and Cove Energy, whose average share prices (in U.S. dollars) during the Class Period were less than \$2. Chesapeake Energy, Denbury Resources, and Petrohawk Energy were also excluded because they had unresolved securities-related litigation during the Class Period.

security's beta reflects its perceived riskiness relative to the overall market, and is measured by the security's sensitivity to changes in the market index. All else equal, a company with a beta greater than one is considered to be riskier than the general market. A company with a higher beta is expected to perform worse during periods of market downturns than a firm with a lower beta, all else equal, and the company with a higher beta is expected to recover faster during periods of market recovery.<sup>75</sup> Kosmos had an estimated beta of 2.03, which was higher than that of the Market Capitalization-Weighted Custom Peer Index (1.81), the Equally-Weighted Custom Peer Index (1.85), and the S&P 500 Energy Sector Total Return Index (1.34).<sup>76</sup> This finding is consistent with the observed larger price movements of Kosmos' stock relative to the market and the industry indices during the Class Period.

43. Thus, this analysis of Kosmos' stock performance relative to that of the energy industry and the market supports the findings of my event study. That is, disclosures concerning production issues at Jubilee Field did not cause any declines in Kosmos' stock price.

## **VII. ANALYSTS' VIEWS OF THE PRODUCTION AT JUBILEE FIELD**

44. My event study results described in Section V are further confirmed by analysts' discussions of the impact of production at Jubilee Field on Kosmos' stock price during the Class Period. In this section, I show that, in general, the production delays at Jubilee Field had minimal or no impact on equity analysts' valuation of Kosmos. Overall, analysts ascribed Kosmos' stock price movements to factors unrelated to the allegations.

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<sup>75</sup> Zvi Bodie, Alex Kane, and Alan Marcus, *Investments*, McGraw-Hill/Irwin, Sixth edition, 2005, pp. 288-289 and 1047.

<sup>76</sup> I estimate betas for the period from May 2011 through October 2013 on a monthly basis.

**A. Analysts' Commentary on the News Regarding Oil Production at Jubilee Field**

45. Analysts expressed the view that Kosmos was not “a near-term earnings or cash flow story,”<sup>77</sup> and, being an exploration-driven company, its valuation would likely “rise and fall with exploration success and failure.”<sup>78</sup> Therefore, when valuing Kosmos’ stock, analysts employed the net asset value (“NAV”) method.<sup>79</sup> The NAV method, unlike cash flow multiples, values Kosmos based on the estimated reserves of individual discoveries and exploration prospects held by the company and the probability of exploration success.<sup>80</sup> According to Credit Suisse analysts, “NAV is the best method to value Kosmos shares” and “NAV includes producing assets, undeveloped and unproven existing reserves and risked exploration upside potential.”<sup>81</sup> Citi analysts also indicated that Kosmos’ “shares will trade more on a NAV basis rather than just cash flow ratio.”<sup>82</sup> Tudor Pickering Holt analysts stated that their “Kosmos NAV is in line with [their] methodology for other exploration focused

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<sup>77</sup> “An oil leveraged, West African, wildcatter with a proven E&D team in new ‘play types’,” *Societe Generale*, June 20, 2011, p. 3.

<sup>78</sup> “Initiating Coverage with 2-Equal Weight,” *Barclays Capital*, June 20, 2011, p. 1.

<sup>79</sup> Analysts at Barclays, Citi, Credit Suisse, Deutsche Bank, Societe Generale, Jefferies, Howard Weil, ISI, RBC, Standard Bank, and Tudor Pickering Holt use the NAV method to value Kosmos’ shares. (See, for example: “Initiating Coverage with Buy/High Risk Rating; \$22 Price Target,” *Citi*, June 20, 2011; “Initiating Coverage with 2-Equal Weight,” *Barclays Capital*, June 20, 2011; “Ghana Can Still Surprise,” *Credit Suisse*, June 20, 2011; “The Price of Success; Initiate at Hold,” *Deutsche Bank*, December 5, 2011; “Masters of the game now everyone wants to play...,” *Jefferies*, June 20, 2011; “An Oil leveraged, West African, wildcatter with a proven E&D team in new ‘play types’,” *Societe Generale*, June 20, 2011; “Initiating Coverage,” *Howard Weil*, July 15, 2011; “Appraisal Upside,” *RBC*, August 17, 2011; and “Kosmos Energy,” *Tudor Pickering Holt*, May 4, 2011) Analysts also use the NAV method to value Tullow. (See, for example, “It’s tough at the top,” *Marquarie Equities Research*, November 11, 2011, pp. 1 and 4; and “Still busy ‘elephant hunting’,” *Credit Suisse*, November 9, 2011, pp. 1 and 6.)

<sup>80</sup> “An oil leveraged, West African, wildcatter with a proven E&D team in new ‘play types’,” *Societe Generale*, June 20, 2011, pp. 1 and 12.

<sup>81</sup> “Ghana Can Still Surprise,” *Credit Suisse*, June 20, 2011, p. 10.

<sup>82</sup> “Initiating Coverage with Buy/High Risk Rating; \$22 Price Target,” *Citi*, June 20, 2011, p. 11.

companies.”<sup>83</sup> Those analysts further stated that “multiple analysis is irrelevant when such a large proportion of value is contained in exploration upside.”<sup>84</sup> Analysts from ISI shared the same view, maintaining that a valuation of Kosmos using a multiple approach does not capture the value of its large, non-producing discoveries.<sup>85</sup>

46. Analysts generally expressed the view that news regarding oil production at Jubilee Field had little or minimal impact on Kosmos’ NAV. For example, following the August 11, 2011 conference call in which Kosmos disclosed that production at Jubilee Field was delayed and the target production level of 120,000 bopd would be reached by year-end (rather than in the third quarter),<sup>86</sup> Credit Suisse analysts stated:

“Tullow had previously guided to ramp-up to 120 kbpd from 80 kbpd gross production by August. Text in Kosmos’ release indicates this may take until year-end, which could impact Q3 EPS, but *would not impact NAV*.”<sup>87</sup>

47. RBC analysts shared the same view on August 17, 2011, stating that “[t]he development issues that ha[d] been encountered to date at Jubilee d[id] not appear to be material.”<sup>88</sup> On October 19, 2011, Credit Suisse analysts further confirmed the “deminimus” impact of the delay in Jubilee’s ramp-up on Kosmos’ value:

“One of the impacts of the near term volume shortfall is higher operating expenses in 2H11. We lower 2011 earnings to reflect the already announced slower ramp in Ghana at the Jubilee field which results in temporarily higher operating expense (consensus already reflects this). *The*

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<sup>83</sup> “Kosmos Energy,” *Tudor Pickering Holt*, May 4, 2011, p. 2. (Bracketed text added for clarification.)

<sup>84</sup> “Kosmos Energy,” *Tudor Pickering Holt*, May 4, 2011, p. 2.

<sup>85</sup> “Inexpensive on Existing Ghana Discoveries,” *ISI*, August 3, 2011, p. 8.

<sup>86</sup> “KOS – Q2 2011 Kosmos Energy Ltd Earnings Conference Call,” *Thomson StreetEvents*, August 11, 2011, 11:00AM, p. 12.

<sup>87</sup> “Exploration Calendar Expanding, in 2012-13,” *Credit Suisse*, August 12, 2011, p. 4.

<sup>88</sup> “Appraisal Upside,” *RBC*, August 17, 2011, p. 11. (Bracketed text added for clarification.)

*\$25m decrease in 2011 net income is de minimus versus the NAV of the company.*”<sup>89</sup>

48. The impact of the oil production delays on Kosmos’ value was minimal because, according to Credit Suisse analysts, the delay was considered part of “a normal learning curve that might need some sidetracks and additional wells over time but is not a reserve issue.”<sup>90</sup> Further, the analysts claimed that “[t]he Jubilee field was brought on stream in just 3.5 years,” relative to an industry average of closer to eight years, “so the slow ramp does needs [sic] to be put in perspective.”<sup>91</sup>

49. Finally, when it was announced in November 2011 that the targeted production rate at Jubilee Field would not be reached until 2012,<sup>92</sup> Credit Suisse analysts attributed minimal impact on Kosmos’ value brought by this news, stating that “[w]e lower EPS on delays to Jubilee and the additional costs to remediate them. *This is not a reserve issue and the impact on NAV is minimal (<2%).*”<sup>93</sup> These analysts arrived at this conclusion because Kosmos was “a NAV-based company” and “lower near term production and higher capex have only a <2% impact.”<sup>94</sup> Analysts at Tudor Pickering Holt also reported that “[t]he impact on gross NAV for Jubilee is minimal ... (down 4%), given we are not assuming any reduction in reserves and the additional profit tax is reduced given it is IRR based.”<sup>95</sup> Likewise, Citi

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<sup>89</sup> “Catalysts, Value and Increasing Footprint,” *Credit Suisse*, October 19, 2011, p. 2 (emphasis added). (Bracketed text added for clarification.)

<sup>90</sup> “Catalysts, Value and Increasing Footprint,” *Credit Suisse*, October 19, 2011, p. 4.

<sup>91</sup> “Catalysts, Value and Increasing Footprint,” *Credit Suisse*, October 19, 2011, pp. 2 and 4.

<sup>92</sup> “Tullow Now Sees Full Jubilee Output By 2012 Due To Well Issues,” *Dow Jones International News*, November 9, 2011, 2:28AM.

<sup>93</sup> “Lowering EPS on Jubilee Delays, Higher Corporate Tax Rate,” *Credit Suisse*, November 11, 2011, p. 1 (emphasis added).

<sup>94</sup> “Lowering EPS on Jubilee Delays, Higher Corporate Tax Rate,” *Credit Suisse*, November 11, 2011, p. 1.

<sup>95</sup> “Jubilee production issues,” *Tudor Pickering Holt*, November 11, 2011, p. 1 (emphasis added).

analysts believed the issue at Jubilee Field was “not related to reservoir quality” and kept their estimated “total risked NAV value” of Kosmos “unchanged.”<sup>96</sup>

**B. Factors Other Than the Allegations Affected Kosmos’ Stock Price or Analysts’ Valuation of the Company during the Class Period**

50. Consistent with their claims that the production delays at Jubilee Field had little impact on Kosmos’ NAV, analysts generally attributed movements in the stock price or changes in their valuation of Kosmos to factors other than production at Jubilee Field. Those factors, among other things, included exploration results, relinquishment of exploration rights, Brent oil price movements, recessionary risk, and changes in investors’ risk aversion. For example, on June 20, 2011, Citi analysts emphasized the role of Kosmos’ other discoveries and explorations in their assessment of the company’s NAV and stock performance, stating:

“Given that the company has only recently commenced production, but with extensive development opportunities and exploration upside ahead, we expect it to receive a premium cash flow multiple to reflect this potential. Additionally, we anticipate that its shares will trade more on a NAV basis rather than just cash flow ratio, e.g. *we expect drilling results and oil price movements to have a greater impact on the stock price rather than minor variability in quarterly earnings.*”<sup>97</sup>

51. When initiating coverage of Kosmos on June 20, 2011, Barclays’ analysts believed that, as “an exploration-driven company, [*Kosmos*] *valuation will likely rise and fall with exploration success and failure.*”<sup>98</sup> Analysts at Standard Bank also claimed that “exploration and appraisal wells in Ghana” were potential catalysts for Kosmos’ share price

<sup>96</sup> “Q3’11 Wrap-Up: Jubilee Full Ramp-Up Delayed Until End 2012,” *Citi*, November 11, 2011, pp. 1 and 7.

<sup>97</sup> “Initiating Coverage with Buy/High Risk Rating,” *Citi*, June 20, 2011, p. 11 (emphasis added).

<sup>98</sup> “Initiating Coverage with 2-Equal Weight,” *Barclays Capital*, June 20, 2011, p. 1 (emphasis added). (Bracketed text added for clarification.)

performance.”<sup>99</sup> On August 11, 2011, one of the identified event dates, Societe Generale analysts attributed Kosmos’ stock price underperformance to “dry hole” discoveries, a decline in Brent oil prices, and change in investors’ risk aversion, stating:

“KOS is down 42% from the 52-week high of \$19.70 vs. the small cap/mid cap average of 30-35%. We attribute this underperformance to the *recent dry hole announcement at Makore-1, the drop in Brent oil prices, and the change in market risk appetite to exploration based stories* (e.g., CIE is down 48% from the 52-week high). Based on just today’s release, we don’t think KOS can escape the vicissitudes of the market.”<sup>100</sup>

52. A few days later, on August 17, 2011, RBC also reported that: “Two dry holes, additional costs and the relinquishment of WCTP [the West Cape Three Points Block – one of Kosmos’ exploration areas in Ghana] have negatively impacted our valuation in recent months.”<sup>101</sup> Furthermore, on January 9, 2012, RBC analysts stressed that, “[a]s a producer and oilfield developer, Kosmos’ leverage to the oil price is significant,” and estimated that “a \$10/bbl swing in the Brent oil price would result in a 13% change in [their] NAV.”<sup>102</sup>

53. In addition, the effect of recessionary risks caused investor concerns about Kosmos during the Class Period. For example, on August 24, 2011, analysts at Credit Suisse observed: “KOS shares have fallen sharply as recession risks have risen, and unfairly so in our view.”<sup>103</sup>

<sup>99</sup> “Initiating Coverage – One Step Beyond,” *Standard Bank*, September 27, 2011, p. 1. As another example, analysts at Standard Bank on November 11, 2011 reported, “In our view, the potential catalysts are the Teak and Enyenra appraisal wells and forthcoming applications for development. Positive results from the new completion designs on Jubilee should also be welcome by the market.” (See “Positive on Balance,” *Standard Bank*, November 11, 2011, p. 1.)

<sup>100</sup> “Results were in line with SG and consensus; accelerated drilling plan may not be enough given weak market conditions,” *Societe Generale*, August 11, 2011, p. 1 (emphasis added).

<sup>101</sup> “Appraisal Upside,” *RBC*, August 17, 2011, pp. 1 and 7. (Bracketed text added for clarification.)

<sup>102</sup> “Kosmos Energy (NYSE: KOS; Outperform, Above Average Risk, \$17.00 Price Target),” *RBC*, January 9, 2012, p. 1. (Bracketed text added for clarification.)

<sup>103</sup> “Deep Prospect Inventory; Deep Value,” *Credit Suisse*, August 24, 2011, p. 1.

54. To summarize, analysts' views of the causes of Kosmos' stock declines during the Class Period were different from Plaintiffs' assertion that the production problems at Jubilee Field caused Kosmos' price declines during this period and, therefore, further confirm my event study results.

## **VIII. CONCLUSIONS**

55. In this declaration, I address the issue of loss causation with respect to Plaintiffs' damages claims. I conclude that there is no economic evidence that Plaintiffs suffered losses due to the revelation of allegedly false or misleading statements on the event dates. Hence, I conclude that Plaintiffs suffered no damages as a result of the alleged misstatements and omissions identified in the complaint. Furthermore, I have seen no evidence of any statistically sound methodology that could demonstrate class-wide damages arising from the allegations in the complaint. As I demonstrated in Section V, the residual returns on all event dates on which news about the oil production at Jubilee Field was disclosed are not both negative and statistically significant. My event study results are supported by the fact that Kosmos' stock price performance is consistent with that of its comparable companies. My event study results are further confirmed by analysts' views that oil production delays at Jubilee Field had little or no impact on Kosmos' stock price.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

A handwritten signature in black ink that reads "Glenn Hubbard". The signature is written in a cursive style with a large, stylized initial "G".

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Glenn Hubbard

November 18, 2013

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
5/10/2011	Tuesday	<ul style="list-style-type: none"><li>• Kosmos' IPO date - beginning of Class Period</li><li>• Kosmos Energy is seeking to raise \$540 million today in an initial public offering after oil gained 48 percent in a year to a 32-month high. "Jubilee is expected to yield 120,000 barrels of oil per day in the third quarter of this year." "The challenge for any IPO in the energy sector right now is that the sector has recently fallen out of favor, and the pricing will be challenged by that." (Bloomberg, May 10, 2011, 0:01) <i>(See also: Dow Jones, May 10, 2011, 11:17; Bloomberg, May 10, 2011, 17:57)</i></li><li>• Kosmos plans to offer 30 million shares at \$16 to \$18 a share on NYSE, for trading under symbol KOS. (MarketWatch, May 10, 2011, 15:52)</li><li>• "Kosmos Energy Ltd. priced 33 million shares at \$18 each in its U.S. initial public offering, according to data compiled by Bloomberg." (Bloomberg, May 10, 2011, 19:52)</li><li>• Kosmos Energy raised \$594 million in a U.S. initial public offering, 10 percent more than it sought. (Bloomberg, May 10, 2011, 20:14)</li><li>• Kosmos raised more than expected in its IPO. (Reuters, May 10, 2011, 20:27)</li><li>• Kosmos "has priced its initial public offering of 33 million common shares at \$18.00 per share. The common shares will begin trading on the New York Stock Exchange on May 11, 2011." (Business Wire, May 10, 2011, 22:21)</li></ul>	<ul style="list-style-type: none"><li>• Ghana hasn't publicly disclosed contracts with companies including Tullow Oil, operator of Jubilee field, and continues to negotiate exploration contracts in private rather than through open tenders. (BBC, May 10, 2011, 8:32)</li></ul>		

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
5/11/2011	Wednesday	<div><div>• Ghana's Minister for Energy orders disclosure of the details of Jubilee partners' exploration and production contracts. (All Africa, May 11, 2011, 6:09)</div><div>• "Kosmos Energy has agreed to pay a fine of 15m dollars to the Ghana government for disclosing data on the Jubilee Oil Field without the government's consent." (BBC, May 11, 2011, 6:10)</div><div>• "Kosmos Energy Ltd. plans to offer more shares in its initial public offering than it had anticipated and the stock priced at the high end of its expected range." (Dow Jones, May 11, 2011, 6:47)</div><div>• "Kosmos Energy Ltd. said that it has priced its initial public offering of 33 million common shares at \$18 per share, the high end of its expected range." (Associated Press, May 11, 2011, 7:35)</div><div>• "Kosmos Energy, owned by Warburg Pincus and Blackstone, raised \$594 million in an IPO, 10 percent more than it sought." (Bloomberg, May 11, 2011, 7:50)</div><div>• "Kosmos Energy LLC opened trading at \$19.50." (Bloomberg, May 11, 2011, 9:34)</div><div>• Kosmos Energy rises as much as 9.4% after its \$594 million IPO. (Bloomberg, May 11, 2011, 9:36) (See also: Bloomberg, May 11, 2011, 9:52; Bloomberg, May 11, 2011, 11:23)</div><div>• Kosmos opened at \$19.5 a share on NYSE, up 8.3% from its \$18 offer price. It expects oil production in Jubilee to reach 120,000 bopd by 3Q2011. (Dow Jones, May 11, 2011, 9:37) (See also: Reuters, May 11, 2011, 9:47)</div><div>• Kosmos closed at \$18.24 on its first trading day, up 1% from its \$18 offer price. "Production from the Jubilee Field began in November, with daily oil output of 120,000 barrels targeted for the third quarter of 2011." (MarketWatch, May 11, 2011, 17:14) (See also: Bloomberg, May 11, 2011, 16:42)</div></div>			
5/12/2011	Thursday		<div>• Tullow issues Interim Management Statement for the period January 1 to May 11, 2011, and states that gross production from Jubilee field has increased to over 70,000 bopd, and plateau production of 120,000 bopd is expected to be reached in July. (Regulatory News Service, May 12, 2011, 2:00)</div> <div>• Tullow expects strong production growth in 2011 from Jubilee oil field. (Dow Jones, May 12, 2011, 2:01) (See also: Dow Jones, May 12, 2011, 2:37; Dow Jones, May 12, 2011, 3:13; Dow Jones, May 12, 2011, 3:28)</div>		

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
5/13/2011	Friday	<ul style="list-style-type: none"><li>• Kosmos Energy's CEO says Kosmos is well funded for 3 years after the IPO. (Bloomberg, May 13, 2011, 12:33)</li><li>• Kosmos' CEO said Jubilee field pumped an average of 70,000 bopd in April and will reach 120,000 bopd late in the third quarter of 2011. "'There will be challenges associated with broadening their exploration portfolio,' said Gianna Bern, president of Brookshire Advisory &amp; Research Inc. in Chicago, who doesn't rate or own Kosmos shares. 'Having said that, they are in probably one of the best countries to do business [...] on the west coast of Africa.'" (Bloomberg, May 13, 2011, 14:22) (See also: Bloomberg, May 13, 2011, 16:24)</li></ul>	<ul style="list-style-type: none"><li>• Tullow said oil output from Jubilee would hit 120,000 barrels a day in July. (Reuters, May 13, 2011, 7:33) (See also: The Times, May 13, 2011)</li><li>• "Daily output from the Jubilee oil field currently stands at 70,000 barrels, according to Tullow Oil Plc." (Bloomberg, May 13, 2011, 13:05)</li><li>• "Tullow Oil expects capital expenditure for 2011 to be in the region of \$1.5 billion (€1 billion) as it ramps up production at its Jubilee oil field in Ghana." (The Irish Times, May 13, 2011)</li></ul>		
5/14/2011	Saturday				
5/15/2011	Sunday				
5/16/2011	Monday	<ul style="list-style-type: none"><li>• Kosmos spilled 699 barrels of mud which contained poisonous heavy metals that could affect Ghana's ecosystem and was fined \$35 million for it. (All Africa, May 16, 2011, 5:34)</li></ul>			
5/17/2011	Tuesday				<ul style="list-style-type: none"><li>• Ghana could lose millions of dollars of oil revenue because the flow meter for measurement of oil exports on the FPSO platform at Jubilee field was not functioning, and the two regulatory bodies, GNPC and Ghana Ministry of Energy, were aware of the fact. (BBC, May 17, 2011, 9:09)</li></ul>
5/18/2011	Wednesday	<ul style="list-style-type: none"><li>• "Ghana is drafting rules on local hiring and transparency in its oil sector to avoid the discontent that spawned militancy in Nigeria and uprisings across the Arab world, but also keep big oil companies sweet." (Reuters, May 18, 2011, 7:50)</li></ul>	<ul style="list-style-type: none"><li>• The attempt of Ghana to earn \$584 million from oil revenue in 2011 might fail due to the defective metering system on the export line at the Jubilee fields. Also, Tullow is said to "have disconnected a monitoring device installed by the Ghana Revenue Authority (GRA) to independently monitor crude oil being exported." (All Africa, May 18, 2011, 5:02) (See also: All Africa, May 18, 2011, 12:00)</li></ul>		
5/19/2011	Thursday				<ul style="list-style-type: none"><li>• GNPC will extract about 950,000 barrels of crude from Jubilee field on May 24 or May 25 in its second time pumping from the site. (Bloomberg, May 19, 2011, 12:35)</li></ul>
5/20/2011	Friday		<ul style="list-style-type: none"><li>• GNPC and Tullow said a defective measuring instrument on its only offshore oil platform "does not threaten its ability to track crude exports." (Reuters, May 20, 2011, 13:56)</li></ul>		
5/21/2011	Saturday				
5/22/2011	Sunday		<ul style="list-style-type: none"><li>• Ghana's state refinery rejected claims that it's unable to refine crude oil from the Jubilee field. "Tullow has since sought to distance itself from the comment in a statement issued to the media." (BBC, May 22, 2011, 0:27)</li></ul>		
5/23/2011	Monday				
5/24/2011	Tuesday				<ul style="list-style-type: none"><li>• Public Agenda's probe shows grounds for concern that Ghana could be losing oil revenue "as a result of the non-functional oil export meters," despite the assurances from Tullow, GNPC, and the Ministry of Energy. (All Africa, May 24, 2011, 10:41)</li></ul>

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
5/25/2011	Wednesday			<ul style="list-style-type: none"><li>• Anadarko at UBS Global Oil and Gas Conference. "[W]e're presently producing about 75,000 barrels a day from Jubilee. We anticipate to get to 120,000 barrels very shortly, by the end of the summer. [...] [O]ur estimated resource range is between 600 million and 1.5 billion barrels there. The project development was on time and on budget." (Thomson StreetEvents, May 25, 2011, 8:30)</li><li>• Anadarko said Jubilee field is on track to reach peak production of 120,000 bopd by the end of summer 2011. (Dow Jones, May 25, 2011, 9:21) (See also: Dow Jones, May 25, 2011, 9:36)</li><li>• Anadarko said Jubilee field is on track to reach peak production of 120,000 bopd by the end of summer. (MarketWatch, May 25, 2011, 16:51)</li></ul>	
5/26/2011	Thursday		<ul style="list-style-type: none"><li>• Tullow announces it entered into a conditional agreement to acquire EO Group for \$305 million. (Regulatory News Service, May 26, 2011, 9:45)</li><li>• Tullow will acquire EO Group with \$305 million, which will increase its interest in West Cape Three Points offshore license by 3.5% to 26.4%, and increase its interest in Jubilee by 1.75% to 36.5%. (Dow Jones, May 26, 2011, 9:45) (See also: Dow Jones, May 26, 2011, 10:00; Dow Jones, May 26, 2011, 10:02; Reuters, May 26, 2011, 10:56; Financial Times, May 26, 2011)</li><li>• Tullow agrees to buy EO Group's offshore Ghanaian assets for \$305 million, increasing its stake in Jubilee field by 1.75 percent to 36.5 percent. Jubilee is currently producing at 70,000 bopd, and is expected to produce 120,000 bopd by mid-year. (Bloomberg, May 26, 2011, 11:19)</li><li>• Ghana is likely to approve Tullow's acquisition of the minority partner EO Group's stake in Jubilee oil field. (Reuters, May 26, 2011, 15:42) (See also: Reuters, May 26, 2011, 15:43; Bloomberg, May 26, 2011, 16:29)</li></ul>		<ul style="list-style-type: none"><li>• "Ghana state oil company GNPC lifted 994,691 barrels of crude oil from the offshore Jubilee field on May 25, and expects to receive \$108 million from the sale once it is finalized on June 1." (Reuters, May 26, 2011, 10:06) (See also: Bloomberg, May 26, 2011, 13:20)</li></ul>
5/27/2011	Friday		<ul style="list-style-type: none"><li>• "Jubilee operator Tullow said this month it was pumping over 70,000 barrels a day from the Jubilee field, with production due to hit 120,000 bpd by July." (Reuters, May 27, 2011, 10:06)</li><li>• "T[ullow] has bought out EO Group, one of its partners in a giant Ghanaian oil field, for \$305m (£186m) – two days after it emerged that the small company had not paid its share of operating costs." (The Daily Telegraph, May 27, 2011) (See also: ENP Newswire, May 27, 2011; The Irish Times, May 27, 2011)</li></ul>		<ul style="list-style-type: none"><li>• "Ghana will ship three cargoes of Jubilee crude in July, according to loading programs obtained by Bloomberg News. The June plan will consist of one cargo after a consignment was deferred to July, the schedules showed. All shipments are for 950,000 barrels each." (Bloomberg, May 27, 2011, 10:18) (See also: Bloomberg, May 27, 2011, 12:20)</li></ul>
5/28/2011	Saturday				
5/29/2011	Sunday				
5/30/2011	Monday		<ul style="list-style-type: none"><li>• EO Group, one of Jubilee field's partners, decided to sell its 1.75% shares to Tullow at a cost of \$305 million. Jubilee field is currently producing at 80,000 bopd, which will increase to 120,000 bopd in July 2011. (All Africa, May 30, 2011, 7:17)</li></ul>		

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
5/31/2011	Tuesday		<ul style="list-style-type: none"><li>• "Gross production has increased to over 70,000 bopd. Plateau production of 120,000 bopd is expected to be reached in July this year as the remaining four production wells are completed and brought on line. Jubilee is a world-class oil field with estimated recoverable resources of up to 1 billion barrels." (Regulatory News Service, May 31, 2011, 2:01)</li><li>• Tullow plans to sell 4 million shares on the Ghana stock exchange. Jubilee is currently producing about 70,000 barrels per day, and may reach 120,000 barrels by July. (Bloomberg, May 31, 2011, 9:56) <i>(See also: Bloomberg, May 31, 2011, 13:39)</i></li><li>• Tullow is currently producing around 70,000 bopd from its Jubilee field offshore Ghana and hopes to reach 120,000 bopd by the third quarter of 2011. (Dow Jones, May 31, 2011, 11:09) <i>(See also: Dow Jones, May 31, 2011, 11:24)</i></li></ul>		
6/1/2011	Wednesday	<ul style="list-style-type: none"><li>• Update on key political risks in the Gulf of Guinea. "Ghana joined the ranks of West African oil producers in December 2010 and is expected to ramp up output to 120,000 bpd by July." (Reuters, June 1, 2011, 4:46)</li><li>• Update on key political risks to watch in Ghana. Oil was first pumped from the Jubilee field on Dec 15, 2010, with initial output expected to normalize at 120,000 bpd and rising to 250,000 bpd by 2013. (Reuters, June 1, 2011, 9:29)</li></ul>			
6/2/2011	Thursday				
6/3/2011	Friday		<ul style="list-style-type: none"><li>• Tullow is likely to double its revenues in 2011 from last year's \$1.1 billion, due to first production from its Ghanaian Jubilee field. (The Irish Times, June 3, 2011)</li><li>• "Tullow wants to ramp-up production from Ghana's Jubilee field to 120,000 barrels a day in 2011." (Irish Independent, June 3, 2011)</li></ul>		
6/4/2011	Saturday				
6/5/2011	Sunday				
6/6/2011	Monday	<ul style="list-style-type: none"><li>• Kosmos announced that its Banda-1 exploration well has discovered oil on the West Cape Three Points Block offshore Ghana. (Business Wire, June 6, 2011, 1:05) <i>(See also: Bloomberg, June 6, 2011, 1:07; Regulatory News Service, June 6, 2011, 2:00; Dow Jones, June 6, 2011, 2:01; Dow Jones, June 6, 2011, 2:37; Bloomberg, June 6, 2011, 2:52)</i></li><li>• "Oil production from the Jubilee Field commenced on November 28, 2010, and we received our first oil revenues of \$92.6 million in January 2011. We expect gross oil production from the Jubilee Field to reach the design capacity of the FPSO facility into which oil from the field is being produced. We expect the production rate to reach 120,000 bopd (28,200 bopd net to Kosmos) during 2011." (Kosmos Energy Form 10Q for the quarterly period ended March 31, 2011, dated June 6, 2011)</li></ul>			

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
6/7/2011	Tuesday	<ul style="list-style-type: none"><li>• "Kosmos Energy announced discovery yesterday at Banda-1 exploration well offshore Ghana (Kosmos 31% interest, APC 31%, Tullow Oil 23%, GNPC 10% carried interest)." (Bloomberg, June 7, 2011, 7:43) <i>(See also: Bloomberg, June 7, 2011, 16:06)</i></li></ul>	<ul style="list-style-type: none"><li>• According to Tullow Oil, Jubilee is currently producing around 70,000 barrels of crude a day. (Bloomberg, June 7, 2011, 11:57)</li></ul>		
6/8/2011	Wednesday		<ul style="list-style-type: none"><li>• According to Tullow, daily output from Jubilee is currently about 70,000 bopd and is expected to increase to 120,000 bopd in July. (Bloomberg, June 8, 2011, 7:54)</li></ul>		
6/9/2011	Thursday		<ul style="list-style-type: none"><li>• "Daily output from the Jubilee oil field is expected to climb to 120,000 barrels per day by July from 70,000 barrels now," according to Tullow. (Bloomberg, June 9, 2011, 10:04) <i>(See also: Bloomberg, June 9, 2011, 13:22)</i></li></ul>		<ul style="list-style-type: none"><li>• Ghana's state oil company GNPC has a 13.75 percent revenue share in the Jubilee field, which is "running at around 70,000 bpd and could reach a target 120,000 bpd by July." (Reuters, June 9, 2011, 7:09)</li><li>• Ghana is hedging 100% of its share of output at \$107 per barrel to limit the impact of volatile prices; it holds a 13.75% share in the Jubilee oil field, where it partners with Tullow (34.7%) and three US firms, Anadarko (23.49%), Kosmos (23.49%) and Sabre Oil and Gas (2.81%). (Agence France Presse, June 9, 2011, 12:57)</li></ul>
6/10/2011	Friday	<ul style="list-style-type: none"><li>• Tanzania's state-owned oil company said it received nine bids for oil and gas exploration in the Lake Tanganyika North region, and Kosmos Energy was one of the companies that placed bids. (Bloomberg, June 10, 2011, 11:44)</li></ul>			
6/11/2011	Saturday				
6/12/2011	Sunday	<ul style="list-style-type: none"><li>• "At least nine companies have submitted bids for oil and gas exploration blocks in Tanzania's Tanganyika rift basin," including US firm Kosmos Energy. (Dow Jones, June 12, 2011, 2:15) <i>(See also: Dow Jones, June 12, 2011, 2:30)</i></li></ul>			
6/13/2011	Monday	<ul style="list-style-type: none"><li>• Kosmos rated new 'Hold' at Tudor Pickering. (Bloomberg, June 13, 2011, 8:06)</li></ul>	<ul style="list-style-type: none"><li>• "Gross production has increased to over 70,000 bopd. Plateau production of 120,000 bopd is expected to be reached in July this year as the remaining four production wells are completed and brought on line." (Regulatory News Service, June 13, 2011, 2:00)</li><li>• "Tullow Oil's secondary listing on the Ghana Stock Exchange is likely to be oversubscribed due to the modest number of shares on offer." Also, Tullow's Chief Operating Officer said Jubilee production was expected to ramp up to 120,000 bopd by August, from the current level of 77,000. (Reuters, June 13, 2011, 11:28)</li></ul>		<ul style="list-style-type: none"><li>• Ghana Vice President said his government is content with the stake that its national oil company GNPC receives in offshore oilfields, but would like to see its domestic oilfield service industry develop to capture more of the energy wealth. "Jubilee is currently producing 70,000 barrels per day -- about 10 times Ghana's daily output in 2009 -- and is expected to [output] 120,000 barrels per day by the third quarter." (Dow Jones, June 13, 2011, 16:26)</li></ul>
6/14/2011	Tuesday	<ul style="list-style-type: none"><li>• Kosmos closed the sale of an additional 1,518,242 shares of its common stock at the IPO price of \$18.00 per share pursuant to the over-allotment option exercised by its underwriters, which brings the total number of common shares sold in the offering to 34,518,242 shares. (Business Wire, June 14, 2011, 17:00)</li><li>• "Kosmos Energy plans to list on the Ghana Stock Exchange to raise around \$50 million to fund development of its operations in the West African country." (Reuters, June 14, 2011, 18:10)</li></ul>			

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
6/15/2011	Wednesday	<ul style="list-style-type: none"><li>• "Following Kosmos Energy's spillage of 706 barrels of low toxicity substance at its drilling fields in West Cape Three Points in 2010, a five-member ministerial committee recommended that the Texas-based oil and gas exploration company pays a fine of US\$35 million." (All Africa, June 15, 2011, 2:42)</li><li>• At least nine companies have submitted bids for oil and gas exploration blocks in Tanzania's Tanganyika rift basin, including US firm Kosmos Energy. (All Africa, June 15, 2011, 5:11)</li><li>• "Kosmos Energy to Seek Ghana Listing This Year." (Bloomberg, June 15, 2011, 22:05)</li></ul>			
6/16/2011	Thursday	<ul style="list-style-type: none"><li>• Kosmos Energy plans to raise \$50 million through a share sale on the Ghana Stock Exchange later this year, according to its corporate affairs manager. (Bloomberg, June 16, 2011, 6:20)</li></ul>			
6/17/2011	Friday		<ul style="list-style-type: none"><li>• A provisional loading programme showed that Jubilee field will load around 92,000 bpd in August, up from a scheduled 62,000 bpd in July, but still below the projected 120,000 bpd level which Tullow said would be reached by August. (Reuters, June 17, 2011, 6:36)</li></ul> <i>(See also: Reuters, June 17, 2011, 12:43)</i>		
6/18/2011	Saturday				
6/19/2011	Sunday				
6/20/2011	Monday	<ul style="list-style-type: none"><li>• Kosmos rated as new 'Equalweight' by Barclays Capital. (Bloomberg, June 20, 2011, 2:00)</li><li>• Kosmos rated at new 'Buy' by Jefferies. (Bloomberg, June 20, 2011, 4:45)</li><li>• Kosmos rated as new 'Buy' at Citi. (Bloomberg, June 20, 2011, 6:09)</li><li>• Kosmos rated as new 'Outperform' at Credit Suisse. (Bloomberg, June 20, 2011, 8:49)</li><li>• Kosmos Energy initiated at 'Buy' by Societe Generale. (Bloomberg, June 20, 2011, 9:58)</li></ul>			
6/21/2011	Tuesday				
6/22/2011	Wednesday		<ul style="list-style-type: none"><li>• According to Tullow, Jubilee output is about 70,000 barrels a day and may climb to 120,000 in July. (Bloomberg, June 22, 2011, 9:27)</li></ul>		
6/23/2011	Thursday				
6/24/2011	Friday				
6/25/2011	Saturday				
6/26/2011	Sunday				
6/27/2011	Monday	<ul style="list-style-type: none"><li>• Kosmos paid 15 million dollars of fine to GNPC for a data breach last year regarding the disclosure of confidential GNPC data to third parties; the payment also covers the fine for Kosmos' spillage of low toxicity mud into the sea. (BBC, June 27, 2011, 12:10)</li></ul>	<ul style="list-style-type: none"><li>• "Tullow Oil and Anadarko Petroleum Corp are developing the 250,000 barrel-a-day Jubilee field in deep waters of the Gulf of Guinea." (Bloomberg, June 27, 2011, 14:06)</li></ul>		

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
6/28/2011	Tuesday		• According to Tullow, daily output from the Jubilee field will increase to 120,000 barrels in July from 70,000 barrels currently. (Bloomberg, June 28, 2011, 11:52)		• "Ghana will ship three cargoes of Jubilee crude in August, unchanged from July, according to a loading program seen by Bloomberg News." (Bloomberg, June 28, 2011, 12:01) (See also: Bloomberg, June 28, 2011, 12:47)
6/29/2011	Wednesday	• Kosmos supports fight against malaria in the African continent. (All Africa, June 29, 2011, 6:01)			
6/30/2011	Thursday				
7/1/2011	Friday				
7/2/2011	Saturday				
7/3/2011	Sunday				
7/4/2011	Monday				

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
7/5/2011	Tuesday	<ul style="list-style-type: none"><li>Update on key political risks in the Gulf of Guinea. (Reuters, July 5, 2011, 4:54)</li><li>Update on key political risks to watch in Ghana. (Reuters, July 5, 2011, 6:43)</li><li>Kosmos provided an update on its operations in Ghana, Cameroon and Morocco. In Ghana, it will drill an additional well (Cedrela-1) on the West Cape Three Points Block, which is anticipated to be spudded in the third quarter of 2011, and will bring Kosmos' 2011 capital spending budget for Ghana to \$430 million. In Cameroon, its N'gata-1 exploration well recently drilled on the Kombe-N'sepe Block encountered multiple reservoirs; In Morocco, it has entered into a petroleum agreement with the national oil company of Morocco, covering the Foum Assaka area. (Business Wire, July 5, 2011, 8:00)</li></ul>	<ul style="list-style-type: none"><li>Tullow Oil Trading Update discloses that the production rate at Jubilee field is around 80,000 bopd, and is expected to reach plateau of 120,000 bopd by August. "The delay in the production ramp-up has been caused by the requirement for extended Blow Out Preventer maintenance on the Eirik-Raude rig, a delay in commissioning the third water injection pump and extra work required to fully commission the gas compression system. The Jubilee field is performing as anticipated and pressure support is being provided by current water injection rates of 145,000 bwpd which is expected to rise to 230,000 bwpd in 2H 2011. In addition, with the gas compression now fully commissioned, gas is being injected at rates of around 80 mmscf/d." (Regulatory News Service, July 5, 2011, 2:00) <i>(See also: Reuters, July 5, 2011, 2:28; Reuters, July 5, 2011, 4:00; Mist News, July 5, 2011, 5:46; MarketWatch, July 5, 2011, 11:53; The Guardian, July 5, 2011)</i></li><li>"Jubilee field gross over 10mbbl; currently producing 80kbb/d, ramp up in August to reach 120kbb/d." (Bloomberg, July 5, 2011, 2:18)</li><li>Tullow Oil trading statement and operational update conference call. Tullow emphasized the strong production and cash flow that results from the Jubilee field. In terms of production, "[t]he ramp-up has been a bit slower than we anticipated. We're now expecting to get to 120,000 barrels a day in August. The main reasoning behind the pace of the ramp-up or the few months' delay is additional maintenance time on the BOP and the Eirik-Raude has meant we've not got the well stock on stream as quickly as we had hoped." Also, "with the ramp-up of Jubilee in the second half, we expect to deliver between 90,000 and 94,000." In addition, it noted that design capacity for gas at Jubilee is about 120m a day. (Thomson StreetEvents, July 5, 2011, 4:00)</li><li>Tullow expects to post first-half revenue of \$1.05 billion in August, as it ramps up production from Jubilee to 80k bopd a day, a 14.3% increase from June's level. (Dow Jones, July 5, 2011, 7:08) <i>(See also: Dow Jones, July 5, 2011, 2:00; Press Association National Newswire, July 5, 2011, 8:09; Press Association National Newswire, July 5, 2011, 11:01; Press Association National Newswire, July 5, 2011, 11:03; Press Association National Newswire, July 5, 2011, 13:11; Financial Times, July 5, 2011)</i></li><li>Tullow raised its full-year production target to 94k bopd, up from its previous forecast of 86k - 92k bopd. The Jubilee field is pumping about 80,000 bopd, and will reach a plateau rate of 120,000 bopd in late August. (Bloomberg, July 5, 2011, 11:59)</li></ul>		

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
7/6/2011	Wednesday	<ul style="list-style-type: none"><li>• "Yesterday, Kosmos announced that it had secured additional rig capacity on 'Transocean Marianas' semi-submersible rig to drill Cedrela-1 well west of Makore prospect near block's southern boundary." (Bloomberg, July 6, 2011, 15:17)</li><li>• Transocean said its Marianas semi-submersible rig, which was drilling off the coast of Ghana, had taken on water, and some workers were evacuated. (Bloomberg, July 6, 2011, 17:52)</li></ul>	<ul style="list-style-type: none"><li>• "Tullow has raised full-year production guidance as it announced record first-half revenue driven by higher oil price and increased production in Africa." (Financial Times, July 6, 2011) <i>(See also: Daily Mail, July 6, 2011; The Herald, July 6, 2011; The Guardian, July 6, 2011; The Irish Times, July 6, 2011; Mist News, July 6, 2011)</i></li><li>• "Tullow raised daily production forecasts for the full year from a range of 86,000 to 92,000 barrels to 90,000 to 96,000 barrels, despite delaying a ramp up in its flagship Jubilee field in Ghana by a month because of maintenance." (The Daily Express, July 6, 2011)</li></ul>		
7/7/2011	Thursday	<ul style="list-style-type: none"><li>• Kosmos provided an update on its drilling of the Cedrela-1 well on the West Cape Three Points Block offshore Ghana. The "Transocean Marianas" semi-submersible drilling rig was temporarily inoperable following an anchor-handling incident. Kosmos has begun a search for a substitute drilling rig and intends to drill the Cedrela-1 well when either the "Transocean Marianas" or an alternative rig becomes available. (Business Wire, July 7, 2011, 8:03) <i>(See also: Dow Jones, July 7, 2011, 8:03)</i></li><li>• Kosmos delivered a force majeure notice to Ghana due to a rig delay. It has begun searching for a substitute drilling rig and plans to drill the Cedrela-1 well with either the "Transocean Marianas" or an alternative rig. (Bloomberg, July 7, 2011, 8:12)</li><li>• Transocean said the deep-water drilling rig ("Transocean Marianas") off Ghana that was evacuated the previous day after it took on water remains stable. (Dow Jones, July 7, 2011, 12:10) <i>(See also: Dow Jones, July 7, 2011, 13:16)</i></li><li>• "US-based Kosmos said the planned drilling of the Cedrela-1 well may be delayed following an incident that saw the Transocean-owned Marianas rig take on water, leading to the reported evacuation of more than 100 workers." Also, Jubilee has been producing around 70,000 bopd and "had expected to hit 120,000 bopd this month." (Agence France Presse, July 7, 2011, 13:59)</li><li>• Kosmos' plans to "drill an offshore well near Ghana are being delayed because the drilling rig that was to be used on the project has a problem with its anchor." (Associated Press, July 7, 2011, 16:54)</li><li>• Kosmos says damages to the "Transocean Marianas" rig may delay drilling of Cedrela-1 well after an anchor-handling accident damaged the rig. (Bloomberg, July 7, 2011, 18:05)</li></ul>	<ul style="list-style-type: none"><li>• "Oil production at Ghana's Jubilee field is currently at 80,000 barrels a day and will rise to 120,000 barrels by August or September," (Bloomberg, July 7, 2011, 7:11)</li><li>• According to Tullow, Jubilee oil field may reach peak production in August or September, a month later than planned, after boosting output to 80,000 bopd since the start of July. (Bloomberg, July 7, 2011, 9:50) <i>(See also: Bloomberg, July 7, 2011, 12:29)</i></li></ul>		

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
7/8/2011	Friday	• Oil sales from Jubilee totaled \$954.6 million from 8.6 million barrels of crude. (Bloomberg, July 8, 2011, 11:05)			
7/9/2011	Saturday				
7/10/2011	Sunday				
7/11/2011	Monday	<div>• BHP may be interested in expanding its African oil assets, and Kosmos Energy would be a smaller target for it. (Bloomberg, July 11, 2011, 4:22)</div> <div>• Market expects BHP Billiton to initiate a major acquisition to obtain African oil asset. Potential targets include Tullow Oil and Kosmos Energy. (The Australian Financial Review, July 11, 2011)</div>			
7/12/2011	Tuesday				
7/13/2011	Wednesday				
7/14/2011	Thursday	• Kosmos announced its Makore-1 exploration well on the West Cape Three Points Block encountered 37 meters of Campanian-age water-bearing sandstone reservoirs and 46 meters of Turonian-age water-bearing sandstone reservoirs. (Business Wire, July 14, 2011, 17:44)	<div>• "Tullow Oil Plc, operator of the Jubilee offshore oil field, expects daily production to 120,000 barrels per day by next month or September from 80,000 barrels per day at the start of July." (Bloomberg, July 14, 2011, 15:25)</div> <div>• Tullow issued update regarding Kosmos Energy's reservoir discovery at Makore-1 exploration well, in which Tullow is a 22.896% partner. (Regulatory News Service, July 15, 2011, 2:00)</div> <div>• Tullow announces the Makore-1 well offshore Ghana, operated by Kosmos, has found water. (Bloomberg, July 15, 2011, 2:05)</div>	• Ghana's total oil revenues were forecast at 1.25 billion cedis for 2011, including the share set aside for state oil company GNPC. (Reuters, July 14, 2011, 10:35)	
7/15/2011	Friday	• Kosmos rated as new 'Market Outperform' by Howard Weil. (Bloomberg, July 15, 2011, 8:38)			
7/16/2011	Saturday				
7/17/2011	Sunday				
7/18/2011	Monday				
7/19/2011	Tuesday	• Kosmos announced its Makore-1 well on the West Cape Three Points Block encountered 37 meters of Campanian-age water-bearing sandstone reservoirs and 46 meters of Turonian-age water-bearing sandstone reservoirs. Article release date listed as July 15, 2011. (ENP Newswire, July 19, 2011)			
7/20/2011	Wednesday	<div>• "Ghana will ship three cargoes of Jubilee crude in September, one more than in August, according to a loading program obtained by Bloomberg News." (Bloomberg, July 20, 2011, 10:40) <i>(See also: Bloomberg, July 20, 2011, 12:28)</i></div>			
7/21/2011	Thursday	<div>• "Since First Oil, over ten million barrels of oil have already been produced from the Jubilee field and the gross production rate is now around 80,000 bopd from seven wells. Plateau production of 120,000 bopd is expected to be reached by August with the completion of the final two Phase 1 production wells." (Regulatory News Service, July 21, 2011, 9:00)</div> <div>• "Ghana's oil output is due to hit 120,000 barrels per day in August as the production in the Tullow-operated Jubilee field is ramped up." (Reuters, July 21, 2011, 10:10)</div>			
7/22/2011	Friday				

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
7/23/2011	Saturday				
7/24/2011	Sunday				
7/25/2011	Monday		<ul style="list-style-type: none"><li>• A total of \$1.6 million is being committed by the Jubilee partners to develop six coastal districts of the Western Region of Ghana, in a project themed "Town Planning: an Imperative for Sustainable Oil economy in Western Region." (All Africa, July 25, 2011, 4:31)</li><li>• Tullow completed acquisition of EO Group, which will increase its interest in the Jubilee field by 1.75% to 36.5%. (Regulatory News Service, July 25, 2011, 12:30) (See also: Dow Jones, July 25, 2011, 12:30; Dow Jones, July 25, 2011, 12:45)</li><li>• Tullow oil announced it has allotted 3,531,546 shares of 10p each on the Ghana Stock Exchange (GSE), which is the largest primary share offer on the GSE. "Since First Oil, over ten million barrels of oil have already been produced from the Jubilee field and the gross production rate is now around 80,000 bopd from seven wells. Plateau production of 120,000 bopd is expected to be reached by August with the completion of the final two Phase 1 production wells." Article release date listed as 22 July 2011. (ENP News Service, July 25, 2011)</li></ul>	<ul style="list-style-type: none"><li>• "In Ghana, current gross production from Jubilee is approximately 80,000 BOPD, and production continues to ramp up with further well completions and gas injection." (Anadarko Press Release, July 25, 2011)</li><li>• Anadarko has seen increasing output this year from the Jubilee field, which is currently producing about 80,000 barrels of oil a day. (Bloomberg, July 25, 2011, 17:15)</li><li>• Anadarko reported a 2Q2011 profit of \$562 million, compared with a year-earlier loss of \$28 million, helped by higher-than-anticipated production sales volumes; it said current production from the Jubilee field is about 80,000 bopd, and production continues to ramp up with further well completions and gas injection. (Dow Jones, July 25, 2011, 17:38) (See also: Dow Jones, July 25, 2011, 17:53)</li></ul>	
7/26/2011	Tuesday		<ul style="list-style-type: none"><li>• Tullow completed acquisition of EO Group, which will increase its interest in the Jubilee field by 1.75% to 36.5%. (The Irish Times, July 26, 2011)</li></ul>	<ul style="list-style-type: none"><li>• Anadarko said yesterday that gross production at Jubilee is about 80,000 barrels of oil a day. (Bloomberg, July 26, 2011, 0:01) (See also: Bloomberg, July 26, 2011, 16:25)</li><li>• Q2 2011 Anadarko earnings conference call. "The partnership continues to ramp production [at Jubilee] toward capacity, which contributed significantly to our increase in oil volumes during the second quarter. Current gross production is averaging about 80,000 barrels of oil per day." (Thomson StreetEvents, July 26, 2011, 10:00)</li></ul>	
7/27/2011	Wednesday		<ul style="list-style-type: none"><li>• "Since First Oil, over ten million barrels of oil have already been produced from the Jubilee field and the gross production rate is now around 80,000 bopd from seven wells. Plateau production of 120,000 bopd is expected to be reached by August with the completion of the final two Phase 1 production wells." (Regulatory News Service, July 27, 2011, 3:10)</li><li>• "Daily output from the field is expected to climb to 120,000 barrels per day by August or September from 80,000 barrels now, according to Tullow." (Bloomberg, July 27, 2011, 9:35) (See also: Bloomberg, July 27, 2011, 12:17)</li><li>• Tullow completed acquisition of EO Group, which will increase its interest in the Jubilee field by 1.75% to 36.5%. Article release date listed as July 25, 2011. (ENP Newswire, July 27, 2011)</li></ul>	<ul style="list-style-type: none"><li>• Anadarko announced 2Q 2011 net income of \$544 million, or \$1.08 per share. "In Ghana, current gross production from Jubilee is approximately 80,000 [bopd], and production continues to ramp up with further well completions and gas injection." Article release date listed as July 25, 2011. (ENP Newswire, July 27, 2011)</li><li>• "The Company's International second-quarter sales volumes were 91 MBOE/d, representing a 35% increase from the second quarter of 2010 primarily due to the start of liftings in Ghana in 2011." (Anadarko Petroleum Form 10Q for the quarterly period ended June 30, 2011, dated July 27, 2011)</li></ul>	
7/28/2011	Thursday	<ul style="list-style-type: none"><li>• Kosmos announces timing of second-quarter 2011 financial results and conference call, which will be on August 11, before the stock market opens. (Business Wire, July 28, 2011, 16:30)</li></ul>			
7/29/2011	Friday				

**Exhibit 1**  
**Summary of Daily News about Kosmos and Jubilee**

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
7/30/2011	Saturday				
7/31/2011	Sunday				
8/1/2011	Monday				
8/2/2011	Tuesday	• Update on key political risks to watch in Ghana (Reuters, August 2, 2011, 4:13)			
8/3/2011	Wednesday	• Kosmos rated 'Outperform' by ISI Group. (Bloomberg, August 3, 2011, 10:03)			
8/4/2011	Thursday	• Kosmos named Brad Whitmarsh as Vice President of Investor Relations. (Business Wire, August 4, 2011, 17:01)			
8/5/2011	Friday				
8/6/2011	Saturday				
8/7/2011	Sunday				
8/8/2011	Monday	• "The Public Agenda has learned that, compared to the Tullow contract, the Kosmos Energy [oil] contract is more favorable to Kosmos than it is to Ghana." (All Africa, August 8, 2011, 8:34)			
8/9/2011	Tuesday		• Two top cabinet ministers "are engaged in a tough duel over how to handle the E.O. Group's 3.5% interest in the Jubilee Oil Field" that was sold to Tullow Oil. (All Africa, August 9, 2011, 9:34)		
8/10/2011	Wednesday				

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Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullov and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
8/11/2011	Thursday	<div><div>• Kosmos announced that it generated a net loss of \$9.1 million for 2Q 2011, compared with a net loss of \$32.5 million for 2Q 2010. Gross production at the Jubilee Field is about 80,000 bopd, and is expected to reach the Floating Production Storage and Offloading (FPSO) capacity around year-end 2011. (Business Wire, August 11, 2011, 8:00) <i>(See also: Reuters, August 11, 2011, 8:53)</i></div><div>• Kosmos' net loss profit narrowed in the second quarter, but Wall Street was expecting a profit. (Associated Press Newswire, August 11, 2011, 10:14)</div><div>• Kosmos' Q2 2011 earnings conference call. "[Oil] revenues in the quarter were \$124 million from one Jubilee lifting of 996,000 barrels with cash received in the third quarter. The average daily production for the quarter was approximately 15,000 barrels per day net to Kosmos or 66,000 barrels per day gross for the Jubilee Field." Kosmos also noted that the delay in ramping up Jubilee production during the startup phase isn't atypical, and is mainly due to 1) significant amount of rig maintenance which delayed completion of wells, 2) operational challenges on commissioning both the water and gas injection systems, and 3) one or two wells suffering from completion related problems which requires sidetracking one into better position. Kosmos was focused on getting the production capacity in place and ensuring the water and gas injection systems were working properly. Besides, it stated that the originally predicted volumetric range hasn't changed, and predicted plateau production target should be reached around year-end 2011. In addition, it provided cost guidance for Jubilee. "For the full year 2011, we expect oil and gas production costs around [...] \$100 million, which correlates to our six liftings in the year, four of which will be in the second half." (Thomson StreetEvents, August 11, 2011, 11:00)</div><div>• Kosmos said Jubilee field will reach plateau output by the turn of the year, although they had planned to reach plateau rate of 120,000 bopd in "late August." The field is currently producing at 80,000 bopd. "The commissioning of full water and gas injection capability continues to be delayed." (Bloomberg, August 11, 2011, 13:19)</div><div>• "Kosmos indicated that production would not peak until the end of the year, a delay of four months on Tullov's own guidance." (Financial Times, August 11, 2011)</div><div>• "A total of 17 development wells have been drilled during Jubilee Field Phase 1 development. Currently, 14 wells are on-line with the remaining wells anticipated to be completed during 2011. With final commissioning of process and injection facilities, completion of the remaining wells and the sidetrack of an existing well, we estimate that production from the Jubilee Field will reach the 120,000 bopd design capacity of the FPSO around year-end." (Kosmos Energy Form 10Q for the quarterly period ended June 30, 2011, dated August 11, 2011)</div></div>			

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
8/12/2011	Friday	<ul style="list-style-type: none"><li>• Kosmos stated that Jubilee Phase 1 plateau production is now targeted for year-end 2011, rather than Tullow's most recent guidance of August. The Guardian had assumed a September plateau target after Anadarko's conference call a few weeks ago, but now instead expects plateau of 120,000 bopd to be reached in November. (The Guardian, August 12, 2011)</li></ul> <i>(See also: Financial Times, August 12, 2011)</i>	<ul style="list-style-type: none"><li>• "Daily output from the [Jubilee] field is expected to climb to 120,000 barrels per day by August or September from 80,000 barrels now, according to Tullow." (Bloomberg, August 12, 2011, 5:46)</li></ul> <i>(See also: Bloomberg, August 12, 2011, 12:18)</i>		
8/13/2011	Saturday				
8/14/2011	Sunday				
8/15/2011	Monday		<ul style="list-style-type: none"><li>• Ghana could lose up to 30.5 million dollars through its inability to tax the acquisition of EO Group by Tullow Oil. (All Africa, August 15, 2011, 8:26)</li></ul>	<ul style="list-style-type: none"><li>• Liberia officially launched the start of offshore oil exploration, after two oil companies began drilling, including Anadarko Petroleum. "Anadarko has found rich oil deposits off the West African coast, such as the massive Jubilee field off Ghana with expected reserves of up to 1.8 billion barrels." (Agence France Presse, August 15, 2011, 10:01)</li></ul>	
8/16/2011	Tuesday		<ul style="list-style-type: none"><li>• Jubilee field produces 80,000 bopd currently and will rise to 120,000 barrels this month or next, according to Tullow. (Bloomberg, August 16, 2011, 12:28)</li></ul>		<ul style="list-style-type: none"><li>• Ghana National Petroleum Corporation (GNPC) has signed a memo of understanding with PetroSaudi International to jointly develop and produce oil and gas and related services in Ghana. (Reuters, August 16, 2011, 7:15)</li></ul>
8/17/2011	Wednesday	<ul style="list-style-type: none"><li>• Kosmos rated 'New Outperform' by RBC Capital. (Bloomberg, August 17, 2011, 1:32)</li></ul>		<ul style="list-style-type: none"><li>• Anadarko at EnerCom Oil &amp; Gas Conference. "[Jubilee] is ramping up to 125,000 barrels a day which is the capacity of the FPSO. Presently [it's] at 80,000 barrels a day and bringing additional wells online." (Thomson StreetEvents, August 17, 2011, 14:00)</li></ul> <ul style="list-style-type: none"><li>• "Jubilee is estimated to hold the equivalent of between 600 million and 1.5 billion barrels of oil." (Dow Jones, August 17, 2011, 15:01)</li></ul> <i>(See also: Dow Jones, August 17, 2011, 16:50)</i>	
8/18/2011	Thursday		<ul style="list-style-type: none"><li>• Analysts said Tullow may cut production guidance for 2011 after delays in projects including Jubilee. An analyst at Renaissance Capital called the delay "unexpected." (Bloomberg, August 18, 2011, 4:06)</li></ul> <i>(See also: Bloomberg, August 18, 2011, 11:58)</i>		
8/19/2011	Friday	<ul style="list-style-type: none"><li>• Kosmos said Jubilee field will reach plateau output by the turn of the year, though the partners planned to reach a plateau rate of 120,000 bopd in late August. (All Africa, August 19, 2011, 7:36)</li></ul>	<ul style="list-style-type: none"><li>• Analysts said Tullow may cut production guidance for 2011 after delays at projects including Jubilee, which “is a concern because as you move forward, a higher proportion of Tullow’s production base is due to arrive” from it. (The Irish Times, August 19, 2011)</li></ul>		
8/20/2011	Saturday				
8/21/2011	Sunday				
8/22/2011	Monday				
8/23/2011	Tuesday	<ul style="list-style-type: none"><li>• Kosmos announced a light oil discovery at the Akasa-1 exploration well on the West Cape Three Points Block offshore Ghana. "[T]he well penetrated 33 meters (108 feet) of oil-bearing pay in four good-quality Turonian--aged sand packages." (Business Wire, August 23, 2011, 16:45)</li></ul> <ul style="list-style-type: none"><li>• Kosmos said earlier this month that Jubilee field will reach its output plateau by the end of the year. (Bloomberg, August 23, 2011, 18:11)</li></ul>		<ul style="list-style-type: none"><li>• Anadarko said it has discovered light oil in a well on the West Cape Three Points Block offshore Ghana. (Dow Jones, August 23, 2011, 17:47)</li></ul> <i>(See also: Dow Jones, August 23, 2011, 18:02)</i>	

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
8/24/2011	Wednesday		<div><div>• Tullow announced its 2011 half-year results. "Jubilee production in Ghana is expected to increase to 105,000 bopd in October; plateau production of 120,000 bopd is now expected before year-end." (Regulatory News Service, August 24, 2011, 2:01)</div><div>• Jubilee field is producing more than 85,000 bopd. (Bloomberg, August 24, 2011, 2:02)</div><div>• Tullow H1 2011 earnings conference call (UK). Tullow emphasized that it's generating significant operational cash flows from Jubilee, and the field is progressing towards plateau. Delay in Jubilee was caused by water injection issues, rig maintenance, and the J07 well that's not ideally located and require sidetracking, but Tullow believed it's a short term issue. Current performance is around 85,000 bopd from eight wells, which will increase to 105,000 bopd in October when the J06 well comes online, and continue to increase to 120,000 bopd by year end, when sidetracking of the J07 well is completed. In addition, the incremental cost of the J07 sidetrack might be around \$80 million. (Thomson StreetEvents, August 24, 2011, 4:00)</div><div>• Tullow said Jubilee field is expected to pump 105,000 bopd in October, up from 85,000 bopd currently. It also announced that it and its partners would spend at least \$4 billion to develop new oil fields offshore Ghana. (Bloomberg, August 24, 2011, 4:01) <i>(See also: Bloomberg, August 24, 2011, 12:06)</i></div><div>• Tullow cut its forecast for full-year oil production to 82,000 - 84,000 bopd from 90,000 - 94,000 bopd, due to delays at Jubilee. (Reuters, August 24, 2011, 2:46) <i>(See also: Dow Jones, August 24, 2011, 5:32; Dow Jones, August 24, 2011, 5:46; Dow Jones, August 24, 2011, 6:01; Wall Street Journal, August 24, 2011, 6:09; Financial Times, August 24, 2011; Financial Times, August 24, 2011)</i></div><div>• Tullow H1 2011 earnings conference call (US). Tullow emphasized its strong cash flow from Jubilee field. The production for first half of 2011 is around 75,000 bopd, and is expected to exceed 100,000 bopd by year-end. It also explained that the delay in ramp up was due to rig maintenance issues and some wells being completed later than expected. (Thomson StreetEvents, August 24, 2011, 10:00) <i>(See also: Financial Times, August 24, 2011)</i></div><div>• "Jubilee field is expected to yield 105,000 barrels per day by the end of the year, with a capacity for 200,000 bpd. " (Financial Times, August 24, 2011)</div></div>	<div><div>• "Ghana will ship three cargoes of Jubilee crude in October, unchanged from September, according to a loading program obtained by Bloomberg News." (Bloomberg, August 24, 2011, 6:44) <i>(See also: Bloomberg, August 24, 2011, 12:17)</i></div></div>	

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
8/25/2011	Thursday		<ul style="list-style-type: none"><li>• Tullow said it expects its Jubilee field to be producing 120,000 barrels per day by the end of the year. (Daily Mail, August 25, 2011) <i>(See also: Financial Times, August 25, 2011)</i></li><li>• Tullow said it "planned to double the interim dividend to four pence per share to reflect the fundamental change in its finances brought about by bringing Jubilee onstream." (Irish Independent, August 25, 2011)</li><li>• Jubilee field "is now on track to produce 120,000 [bopd] by early next year." (The Irish Times, August 25, 2011) <i>(See also: The Times, August 25, 2011)</i></li><li>• Jubilee field helped the first-half profits at Tullow, the FTSE 100 oil and gas explorer, to surge by 312%. (The Times, August 25, 2011)</li><li>• Tullow revised Jubilee production for 2011 from 90k - 94k bopd to 82k - 84k bopd. (The Daily Telegraph, August 25, 2011) <i>(See also: The Irish Times, August 25, 2011; The Times, August 25, 2011)</i></li></ul>	<ul style="list-style-type: none"><li>• Anadarko said it has discovered light oil in a well on the West Cape Three Points Block offshore Ghana. Article release date listed as August 23, 2011. (ENP Newswire, August 25, 2011)</li></ul>	
8/26/2011	Friday				
8/27/2011	Saturday				
8/28/2011	Sunday			<ul style="list-style-type: none"><li>• "Anadarko Petroleum Corp. said its appraisal well in the West Cape Three Points Block offshore Ghana has encountered crude in underground rock similar to the Jubilee field, the country's largest oil field. The well had 108 net feet of pay and was drilled in water 3,800 feet deep." (Houston Chronicle, August 28, 2011)</li></ul>	
8/29/2011	Monday	<ul style="list-style-type: none"><li>• Kosmos announced that its President and CEO will present at the Barclays CEO Energy-Power Conference on September 7, 2011. (Business Wire, August 29, 2011, 12:00)</li></ul>	<ul style="list-style-type: none"><li>• "Rig delays at Tullow's flagship Jubilee field in offshore Ghana meant the company has revised average production for 2011 down from between 90,000-94,000 barrels of oil equivalent a day (boepd) to between 82,000-84,000 boepd." (All Africa, August 29, 2011, 2:43)</li></ul>		
8/30/2011	Tuesday				
8/31/2011	Wednesday				
9/1/2011	Thursday				
9/2/2011	Friday	<ul style="list-style-type: none"><li>• Former Deputy Energy Minister has revived discussions around the controversial relationship between Kosmos and EO Group and their interest in the Jubilee Oil Field offshore Ghana, accusing Anadarko of undermining the EO Group. (All Africa, September 2, 2011, 10:12)</li></ul>			
9/3/2011	Saturday				
9/4/2011	Sunday				
9/5/2011	Monday	<ul style="list-style-type: none"><li>• Update on key political risks to watch in Ghana. (Reuters, September 5, 2011, 9:49)</li></ul>			
9/6/2011	Tuesday				
9/7/2011	Wednesday	<ul style="list-style-type: none"><li>• Ghana's capital markets regulator said Kosmos is on track to list in Ghana to raise some \$50 million by the end of the year. (Reuters, September 7, 2011, 11:05)</li><li>• Kosmos will list in Ghana by the end of the year. (Bloomberg, September 7, 2011, 12:17)</li></ul>		<ul style="list-style-type: none"><li>• Anadarko at Barclays CEO Energy Power Conference. "[A]t the Jubilee Field, we're about 80,000 barrels a day in terms of production. It is still growing into the fall. In terms of that field's potential, it is a fabulous reservoir. It is still at a 0.6 billion to 1.5 billion barrel of ultimate recovery, so it is a world-class field." (Thomson StreetEvents, September 7, 2011, 9:05)</li></ul>	
9/8/2011	Thursday				

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
9/9/2011	Friday		• "Jubilee is expected to pump 105,000 barrels a day from October, worth \$3.8 billion in the course of a year with oil prices at \$100 a barrel." (Bloomberg, September 9, 2011, 10:05)		
9/10/2011	Saturday		• Tullow's Jubilee field "will pump 120,000 bopd when it reaches full capacity in 2013." (The Irish Times, September 10, 2011)		
9/11/2011	Sunday				
9/12/2011	Monday				
9/13/2011	Tuesday				
9/14/2011	Wednesday				
9/15/2011	Thursday				
9/16/2011	Friday				
9/17/2011	Saturday				
9/18/2011	Sunday				
9/19/2011	Monday				
9/20/2011	Tuesday				
9/21/2011	Wednesday				• Shell expressed interest in exploring for oil in Ghana, and had been in touch with state oil company GNPC. (Reuters, September 21, 2011, 9:05)
9/22/2011	Thursday		• Jubilee output is expected to climb to 120,000 bopd by the end of 2011 from 80,000 bopd currently, according to Tullow. (Bloomberg, September 22, 2011, 14:02)		
9/23/2011	Friday				
9/24/2011	Saturday				
9/25/2011	Sunday				
9/26/2011	Monday				
9/27/2011	Tuesday	• Kosmos rated as 'Buy' by Standard Bank. (Bloomberg, September 27, 2011, 7:08)  • Bernstein analysts claim that Kosmos could be a possible acquisition target of Asian oil companies. (Bloomberg, September 27, 2011, 20:52)  • "Asian oil and gas companies may spend \$150 billion to acquire global assets [...], Sanford C. Bernstein & Co. said in a report." Companies that may be acquisition targets include Kosmos Energy. (Bloomberg, September 27, 2011, 23:20)			
9/28/2011	Wednesday	• "Asian oil and gas companies may spend \$150 billion to acquire global assets [...], Sanford C. Bernstein & Co. said in a report." Companies that may be acquisition targets include Kosmos Energy. (Bloomberg, September 28, 2011, 0:29) (See also: Bloomberg, September 28, 2011, 7:56)  • Kosmos announced the Enyenra-3A appraisal well has confirmed an updip extension of the Enyenra light oil field on the Deepwater Tano Block offshore Ghana; the well encountered 17 meters of 35 degrees API gravity oil. (Business Wire, September 28, 2011, 7:45)	• Tullow said the Enyenra-3A appraisal well in the Deepwater Tano license offshore Ghana has successfully encountered oil in sandstone reservoirs. (Regulatory News Service, September 28, 2011, 2:01) (See also: Dow Jones, September 28, 2011, 2:01; Dow Jones, September 28, 2011, 2:29; Reuters, September 28, 2011, 2:59; M2 Presswire, September 28, 2011)		
9/29/2011	Thursday				

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
9/30/2011	Friday		• Tullow said the Enyenra-3A appraisal well in the Deepwater Tano license offshore Ghana has successfully encountered oil in sandstone reservoirs. Article release date listed as September 28, 2011. (ENP Newswire, September 30, 2011)		
10/1/2011	Saturday				
10/2/2011	Sunday				
10/3/2011	Monday	• Update on key political risks to watch in Ghana. (Reuters, October 3, 2011, 9:23)			
10/4/2011	Tuesday				
10/5/2011	Wednesday	• "Asian buyers may spend \$150 billion by 2016 to secure energy resources for their faster-growing economies and targets could include Tullow Oil Plc, Canadian Oil Sands Ltd. and Kosmos Energy Ltd., according to Bernstein." Also, the market valuation of UK and North American exploration company reserves has dropped 23 percent this year, despite rising crude oil prices. (Bloomberg, October 5, 2011, 19:01)	• Tullow said the Enyenra-3A appraisal well in the Deepwater Tano license offshore Ghana has successfully encountered oil in sandstone reservoirs. (All Africa, October 5, 2011, 8:15)		
10/6/2011	Thursday	• "Asian buyers may spend \$150 billion by 2016 to secure energy resources for their faster-growing economies and targets could include Tullow Oil Plc, Canadian Oil Sands Ltd. and Kosmos Energy Ltd., according to Bernstein." (Bloomberg, October 6, 2011, 7:52) (See also: Bloomberg, October 6, 2011, 12:10)			• The head of state oil company GNPC said Jubilee field is likely to miss its target of boosting oil production to 120,000 bpd by the end of 2011 due to technical challenges, and they're aiming at early 2012; current output is about 80,000 bpd. (Reuters, October 6, 2011, 8:01)
10/7/2011	Friday	• Analysts listed Kosmos Energy and Tullow Oil as being ripe for merger and acquisition activity. (The Scotsman, October 7, 2011)			
10/8/2011	Saturday				
10/9/2011	Sunday	• "Asian buyers may spend \$150 billion by 2016 to secure energy resources for their faster-growing economies and targets could include Tullow Oil Plc, Canadian Oil Sands Ltd. and Kosmos Energy Ltd., according to Sanford C. Bernstein Co." (Bloomberg, October 9, 2011, 14:38) (See also: Bloomberg, October 9, 2011, 16:37; Bloomberg, October 9, 2011, 22:27)			
10/10/2011	Monday	• "Asian buyers may spend \$150 billion by 2016 to secure energy resources for their faster-growing economies and targets could include Tullow Oil Plc, Canadian Oil Sands Ltd. and Kosmos Energy Ltd., according to Sanford C. Bernstein Co." (Bloomberg, October 10, 2011, 2:12) (See also: Bloomberg, October 10, 2011, 15:29)  • "Ghana may miss its oil production target for this year as the goal of reaching peak oil production of 120,000 barrels a day by December at its Jubilee Field may be delayed into 2012, according to the ministry of finance and economic planning." (Bloomberg, October 10, 2011, 15:43)			
10/11/2011	Tuesday	• "Asian buyers may spend \$150 billion by 2016 to secure energy resources for their faster-growing economies, according to Sanford C. Bernstein Co. Targets may include Tullow Oil Plc, Canadian Oil Sands Ltd. and Kosmos Energy Ltd." (The Toronto Star, October 11, 2011) (See also: The Toronto Star, October 11, 2011)			

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
10/12/2011	Wednesday	• Output at the Jubilee oil field will not reach a production target of 120,000 bopd by the end of 2011, according to the Ghana Finance Ministry. (Bloomberg, October 12, 2011, 10:17)			
10/13/2011	Thursday	• Jubilee field may not meet the target to produce 120,000 bopd by the end of the year, according to the Finance Ministry. (Bloomberg, October 13, 2011, 5:19)			
10/14/2011	Friday	• Kosmos will host a conference call and webcast on November 10 to review its third quarter 2011 results. (Business Wire, October 14, 2011, 7:00)			
10/15/2011	Saturday				
10/16/2011	Sunday				
10/17/2011	Monday				
10/18/2011	Tuesday				
10/19/2011	Wednesday	• "Kosmos Energy extends gains, rises 5.8%." (Bloomberg, October 19, 2011, 11:21)	• "Tullow Oil confirms Jubilee field offshore Ghana behind on meeting initial output target 120k b/d by year-end, Platts Oil says on Twitter." (Bloomberg, October 19, 2011, 12:17) (See also: Bloomberg, October 19, 2011, 23:37)		
10/20/2011	Thursday	• Jubilee field oil production has increased to 77,000 bopd as of August 2011, but is still behind the expected 120,000 bopd. "More recent oil finds suggest that we do not yet know the full extent of Ghana's hydrocarbon potential. For example, the expected 2013-14 peak production of 240,000 bpd does not take into account Deepwater Tano Block discoveries - Enyera and Tweneboa yet to be confirmed as commercially viable." (All Africa, October 20, 2011, 16:33)	• "[Jubilee] Field behind on 2011 yr. end target of 120k bbl/d, Platts said in Twitter post last night post-[market]." (Bloomberg, October 20, 2011, 2:53)		
10/21/2011	Friday	• Blackstone cited Kosmos as a successful energy investment while announcing a new energy-focused fund. (Bloomberg, October 21, 2011, 13:16) (See also: Bloomberg, October 21, 2011, 14:57)			
10/22/2011	Saturday				
10/23/2011	Sunday				
10/24/2011	Monday				
10/25/2011	Tuesday	• Jubilee field is now pumping 120,000 barrels of oil a day. (Bloomberg, October 25, 2011, 19:01)			
10/26/2011	Wednesday	• "[T]he world's largest oil companies were beaten to the biggest discoveries by smaller competitors in recent years, such as Tullow Oil Plc.'s Jubilee field in Ghana, which is now pumping 120,000 barrels a day." (Bloomberg, October 26, 2011, 5:33)			
10/27/2011	Thursday				
10/28/2011	Friday				
10/29/2011	Saturday				
10/30/2011	Sunday				

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
10/31/2011	Monday	<ul style="list-style-type: none"><li>Anadarko announces 3Q2011 earnings, and the market may see reaction in Tullow oil and Kosmos Energy. (Bloomberg, October 31, 2011, 14:11)</li></ul>		<ul style="list-style-type: none"><li>Anadarko said Jubilee has encountered mechanical issues related to completion techniques; gross production is more than 85,000 bopd, and they will try to increase capacity once there's a solution. (Bloomberg, October 31, 2011, 17:50)</li><li>"The Company's International third-quarter sales volumes were 78 MBOE/d, representing a 27% increase from the third quarter of 2010 primarily due to the start of liftings in Ghana in 2011." (Anadarko Petroleum Form 10Q for the quarterly period ended September 30, 2011, dated October 31, 2011)</li></ul>	

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
11/1/2011	Tuesday		<ul style="list-style-type: none"><li>• "Tullow Oil slid 4.1 [percent] to £13.45 after partner Anadarko warned that several wells at its Jubilee project off Ghana were producing below expectations." (Financial Times, November 1, 2011)</li></ul>	<ul style="list-style-type: none"><li>• "The Jubilee project off Ghana has encountered mechanical issues related to completion techniques, Anadarko said yesterday. [...] Gross production at the project is more than 85,000 barrels a day, and the company said partners will seek to increase capacity once there's a resolution." (Bloomberg, November 1, 2011, 0:00) <i>(See also: Bloomberg, November 1, 2011, 16:13)</i></li><li>• Anadarko Q3 2011 earnings conference call. "All Phase 1 wells have been drilled, and current oil production from Jubilee is in excess of 85,000 barrels per day. The operators estimate Jubilee resource remains unchanged, although some mechanical issues related to completion techniques will require a sidetrack of one of the producing wells and down-hole remediation on certain other wells. Once these completion issues have been resolved, production is expected to ramp toward facility capacity. Additionally, 8 production and injection wells are expected to commence drilling in 2012 as part of the planned Phase 1A program." Anadarko also mentioned that "[t]he sidetracks are a fraction of what a new well cost[s]." In addition, it's hopeful that the 120,000 bopd target will be reached once the remediation of the completions of wells takes place. (Thomson StreetEvents, November 1, 2011, 10:00)</li><li>• Anadarko said Jubilee field is producing at 85,000 bopd, significantly below the 120,000 bopd target originally expected to be reached by the end of year. Some wells "will have to be reworked in order to try to achieve the original production target." Also, the problem "wasn't associated with early depletion of the reservoir, but rather with the way wells were completed." (Dow Jones, November 1, 2011, 10:17) <i>(See also: Dow Jones, November 1, 2011, 16:58)</i></li><li>• "A longer-than-anticipated production increase at Jubilee could increase the project's development costs." (Dow Jones, November 1, 2011, 16:55) <i>(See also: Dow Jones, November 1, 2011, 17:10)</i></li><li>• Anadarko warned that several wells at Jubilee were producing below expectations, but emphasized that the problems at Jubilee were with equipment rather than with the reservoir. (Financial Times, November 1, 2011)</li></ul>	

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
11/2/2011	Wednesday	<ul style="list-style-type: none"><li>• Kosmos Energy jumps 5.1% intraday on 14% average volume. (Bloomberg, November 2, 2011, 10:41)</li><li>• "The International Finance Corporation expects to invest at least \$200 million in Africa's oil and gas sector in the 2011/12 financial year." (Reuters, November 2, 2011, 13:07)</li></ul>	<ul style="list-style-type: none"><li>• Tullow said Jubilee ramp-up is delayed, and it will reach 100k bod output next year. (Bloomberg, November 2, 2011, 4:51)</li><li>• "Tullow Oil Plc's ramp-up of phase 1 of its Jubilee project in Ghana was delayed until the end of the year." (Bloomberg, November 2, 2011, 5:00) <i>(See also: Bloomberg, November 2, 2011, 5:06)</i></li><li>• Tullow said it will delay ramp up of Jubilee field into 2012 because the wells are underperforming and need to be redesigned. Jubilee is pumping about 85,000 barrels of oil a day, 20,000 barrels less than expected, and will reach the planned 120,000 bopd plateau for phase one next year. (Bloomberg, November 2, 2011, 13:59)</li></ul>	<ul style="list-style-type: none"><li>• Anadarko warned that several wells at Jubilee were producing below expectations, but emphasized that the problems at Jubilee were with equipment rather than with the reservoir. (Financial Times, November 2, 2011)</li></ul>	
11/3/2011	Thursday		<ul style="list-style-type: none"><li>• Tullow said Jubilee field in Ghana is pumping about 85,000 barrels of oil a day, 20,000 barrels less than expected. (Bloomberg, November 3, 2011, 0:00)</li></ul>		
11/4/2011	Friday	<ul style="list-style-type: none"><li>• Kosmos announced its President and CEO will present at the Bank of America/Merrill Lynch 2011 Global Energy Conference on November 15. (Business Wire, November 4, 2011, 16:30)</li></ul>			
11/5/2011	Saturday				
11/6/2011	Sunday				
11/7/2011	Monday		<ul style="list-style-type: none"><li>• Ghana Stock Exchange plans to list four more companies by 2012, including Kosmos and Tullow. Jubilee is pumping about 85,000 barrels of oil per day. (Bloomberg, November 7, 2011, 6:09)</li></ul>		
11/8/2011	Tuesday	<ul style="list-style-type: none"><li>• Update on key political risks to watch in Ghana (Reuters, November 8, 2011, 4:07)</li></ul>			

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
11/9/2011	Wednesday		<ul style="list-style-type: none"><li>• Tullow issues Interim Management Statement. "Group production for 2011 is now expected to average 79-81,000 boepd due to slower than expected ramp up from the Jubilee field." (Regulatory News Service, November 9, 2011, 2:01) <i>(See also: Bloomberg, November 9, 2011, 2:01; The Guardian, November 9, 2011)</i></li><li>• Tullow said it now only expects to reach full production at Jubilee sometime in 2012 and not end of 2011 as initially planned, and also said its share of output from the area had been revised down slightly. The company further stated that "a longer-than-anticipated production ramp-up could increase the project's development costs and reduce net equity production to the field's partners." (Dow Jones, November 9, 2011, 2:28)</li><li>• Tullow trimmed its full-year production guidance to 79,000-81,000 boed, down from a previous estimate of 82,000-84,000 boed. Tullow also revised its share of Jubilee's output down slightly, but said it was "unrelated to the delayed production ramp-up and was rather a consequence of its interests in the field 'straddling two blocks and having to be periodically re-estimated.'" (Dow Jones, November 9, 2011, 3:35) <i>(See also: Dow Jones, November 9, 2011, 7:47)</i></li><li>• Tullow downgraded its 2011 average production to 79k - 81k bopd and said the plateau production would be achieved "sometime during 2012." (Reuters, November 9, 2011, 5:08) <i>(See also: Reuters, November 9, 2011, 5:25)</i></li><li>• The cut in Tullow Oil's full-year production guidance is "slightly disappointing, even though the market has been aware of the Jubilee oilfield ramp-up issues for a while now." (Dow Jones, November 9, 2011, 5:11)</li><li>• Tullow cut its 2011 production forecast to 79,000-81,000 bopd, down from the 82,000-84,000 bopd forecast in August. (Bloomberg, November 9, 2011, 9:20) <i>(See also: Bloomberg, November 9, 2011, 16:22)</i></li><li>• Tullow Oil cut its full year output target because of a slower-than-expected production increase from the Jubilee field in Ghana. (Bloomberg, November 9, 2011, 12:23)</li></ul>		

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
11/10/2011	Thursday	<ul style="list-style-type: none"><li>• Kosmos announced financial results for the third quarter 2011. It generated net income of \$52 million, or \$0.13 per share, compared to a net loss of \$99 million for the same period in 2010. (Business Wire, November 10, 2011, 8:00) <i>(See also; Associated Press, November 10, 2011, 9:32)</i></li><li>• Kosmos' 3Q EPS was 13¢, while analysts' estimate was 15¢. (Bloomberg, November 10, 2011, 8:09)</li><li>• Kosmos' Q3 2011 earnings conference call. Regarding Jubilee production, Kosmos noted that 1) Jubilee is now producing at about 80k bopd; 2) sidetracking of J-7 well is in process and expected to be online early 2012; 3) downhole completion issues have impacted production at several wells but resources aren't affected, and new completion designs will be implemented to change the size of the pore spaces near wellbore; 4) cost of the remediation work will be sizable but yet hard to estimate; 5) plateau production is expected towards the end of 2012. It also stressed that despite the timing issue in the ramp-up of Jubilee, Kosmos generated over \$190 million of EBITDAX in the 3rd quarter. In addition, regarding financing, Kosmos will continue to be funded through 2013 on current projections, and its new ventures program will not be constrained through any reduced cash flows from Jubilee. (Thomson StreetEvents, November 10, 2011, 11:00)</li><li>• "Kosmos said that production at the Jubilee field in Africa hasn't ramped up as quickly as planned but that 'the ultimate resources recoverable from this giant field are unchanged'." (MarketWatch, November 10, 2011, 16:45)</li><li>• "During the third quarter of 2011, we had two liftings of oil totaling 1,994 Mbbls from our Jubilee Field Phase 1 production resulting in revenues of \$230.3 million. Our average realized price per barrel was \$115.50. A total of 17 development wells have been drilled during Jubilee Field Phase 1 development. Currently, 16 wells are online with one sidetrack on an existing well being performed." (Kosmos Energy Form 10Q for the quarterly period ended September 30, 2011, dated November 10, 2011)</li></ul>	<ul style="list-style-type: none"><li>• Tullow cut its full-year output target due to slower than expected ramp up from Jubilee field. (Bloomberg, November 10, 2011, 0:00)</li><li>• "Tullow Oil disappointed investors by trimming output targets due to slower production growth at its Jubilee deepwater oilfield in Ghana." Production is now expected to average 79,000 - 81,000 bopd. (Financial Times, November 10, 2011) <i>(See also: The Irish Times, November 10, 2011; The Times, November 10, 2011; Financial Times, November 10, 2011)</i></li><li>• "Morgan Stanley cuts Tullow Oil target to 1800p from 1840p, following news of an exploration failure and delays to production ramp-up at the Jubilee oil field." (Dow Jones, November 10, 2011, 6:39)</li><li>• "UBS cuts its Tullow Oil price target to 1640p from 1700p after disappointments in both production and exploration [...] Cuts its NAV estimate by 3% to 1636p, due in part to the unsuccessful Monteserrado well and delays to production ramp-up on the Jubilee oil field." (Dow Jones, November 10, 2011, 7:06) <i>(See also: Dow Jones, November 10, 2011, 7:34; Dow Jones, November 10, 2011, 8:34)</i></li></ul>		
11/11/2011	Friday				
11/12/2011	Saturday				
11/13/2011	Sunday				
11/14/2011	Monday	<ul style="list-style-type: none"><li>• "Projects to solve technical issues and boost output at Ghana's Jubilee oil field will cost \$80 million, Business and Financial Times newspaper reported, citing people it didn't identify." (Bloomberg, November 14, 2011, 4:03)</li></ul>	<ul style="list-style-type: none"><li>• Citizen groups working in the oil and gas sector of Ghana "may have new opportunities to participate in the entire process of determining the potential impacts of oil production from Tullow's Tweneboa block," located in the vicinity of the Jubilee Field. (All Africa, November 14, 2011, 11:21)</li></ul>		

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
11/15/2011	Tuesday	<ul style="list-style-type: none"><li>• Kosmos at Bank of America Merrill Lynch Global Energy Conference. Regarding Jubilee production, Kosmos stressed that 1) the problems aren't related to the ultimate recoverable reserves, and only two of the five reservoirs in Jubilee are being developed under Phase 1; 2) the problems have been related to rig maintenance, commissioning of the water and gas injection systems which are now working almost perfectly, and well completion issue near the wellbores where fines are blocking the screens, not allowing the oil to come up as freely as they should; 3) the problems are unusual at this stage, but the phased development was exactly designed to find problems early and correct them; 4) re-drill of the J-7 well with new design will be completed within a couple of months. Besides, "the good news with respect to Jubilee is that the production history that we have got to date is showing us that we can expect to see significant reserve growth over the course of the next few years from additional recovery in that field." In addition, Kosmos stated the downside of the company is protected by phased, long-term development at Jubilee. (Thomson StreetEvents, November 15, 2011, 15:35)</li></ul>		<ul style="list-style-type: none"><li>• Anadarko at Bank of America Merrill Lynch Global Energy Conference. Jubilee is currently producing at 80k to 85k bopd from 9 wells. Regarding the delay in ramp-up, Anadarko comments that "[w]e didn't anticipate it would be a problem here. We had cores throughout the field, [...] So my sense is the remediation efforts will be successful. It's not a reservoir problem." Anadarko also states that there are a lot of options with the existing wells, including sidetracking them and pulling the completions to redo them. "[T]his J-7 well that we're sidetracking now will be the best test case for us and once we understand the success of that, that'll set a course for the rest of the field." (Thomson StreetEvents, November 15, 2011, 9:00)</li></ul>	
11/16/2011	Wednesday		<ul style="list-style-type: none"><li>• "Production at Ghana’s Jubilee oil field will reach 120,000 barrels by early next year from 80,000 barrels, according to Tullow Oil Plc." (Bloomberg, November 16, 2011, 8:27) (See also: Bloomberg, November 16, 2011, 11:17)</li></ul>		<ul style="list-style-type: none"><li>• GNPC pumped crude four times from the Jubilee field this year. In the first three times, it pumped 2.9 million barrels of oil that were worth \$337 million. (Bloomberg, November 16, 2011, 7:27)</li></ul>
11/17/2011	Thursday	<ul style="list-style-type: none"><li>• Kosmos announced that the Teak-3A appraisal well has confirmed a northern extension of the Teak discovery on the West Cape Three Points Block offshore Ghana; the well encountered about 35 meters of hydrocarbons in multiple reservoirs. (Business Wire, November 17, 2011, 16:20)</li><li>• Kosmos announced that its Teak prospect extends further than previously expected. The exploration "significantly extended the production area of the discovery." (Bloomberg, November 17, 2011, 16:57) (See also: Bloomberg, November 17, 2011, 18:52)</li></ul>			
11/18/2011	Friday	<ul style="list-style-type: none"><li>• Kosmos found 115ft net hydrocarbons in Ghana. (Bloomberg, November 18, 2011, 2:05)</li><li>• Tullow said an extension of an oil discovery offshore Ghana, first released by Kosmos, could represent a significant boost to prospects there. It also said earlier this month that it had to push back until 2012 the time-frame to reach full production in Jubilee field. (Dow Jones, November 18, 2011, 3:26) (See also: Dow Jones, November 18, 2011, 3:41)</li></ul>	<ul style="list-style-type: none"><li>• Tullow quotes the previous day's press release by Kosmos, announcing successful appraisal of the Teak discovery offshore Ghana. (Regulatory News Service, November 18, 2011, 2:00)</li></ul>		<ul style="list-style-type: none"><li>• Ghana National Petroleum's Managing Director said the company was considering selling shares through an initial public offering on the Ghana Stock Exchange to fund projects. (Bloomberg, November 18, 2011, 3:56)</li></ul>
11/19/2011	Saturday				
11/20/2011	Sunday				
11/21/2011	Monday	<ul style="list-style-type: none"><li>• Kosmos announced that its Executive Vice President and CFO will present at the Jefferies 2011 Global Energy Conference in Houston on December 1. (Business Wire, November 21, 2011, 16:20)</li></ul>			
11/22/2011	Tuesday				
11/23/2011	Wednesday				

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
11/24/2011	Thursday				
11/25/2011	Friday				
11/26/2011	Saturday				
11/27/2011	Sunday				
11/28/2011	Monday	<ul style="list-style-type: none"><li>• "Kosmos is planning to start recording seismic data over about 5000sq km off the Moroccan coast before the end of the year." (The Australian, November 28, 2011)</li></ul>	<ul style="list-style-type: none"><li>• The Ghana National Gas Co (GNGC) has signed an agreement with Sinopec of China for construction of a first phase of a gas processing plant, which will be fed with gas from the offshore Jubilee field operated by Tullow. (Dow Jones, November 28, 2011, 4:59)</li><li>• Jubilee oil field's output will reach 120,000 barrels by early 2012 from 80,000 barrels, according to Tullow Oil. (Bloomberg, November 28, 2011, 11:19)</li></ul>		
11/29/2011	Tuesday				
11/30/2011	Wednesday				
12/1/2011	Thursday	<ul style="list-style-type: none"><li>• Kosmos says it has never dealt with a Force Majeure in Ghana before, but is working with Ghana's government on the matter. It also says it plans to drill about 12 wells offshore Ghana in 2012 with first Morocco drilling in 2013. (Bloomberg, December 1, 2011, 15:28)</li></ul>			
12/2/2011	Friday	<ul style="list-style-type: none"><li>• "Kosmos Energy has expanded its office lease to 100,000 square feet at the Offices at Park Lane on North Central Expressway in Dallas." (The Dallas Morning News, December 2, 2011)</li></ul>			
12/3/2011	Saturday				
12/4/2011	Sunday				
12/5/2011	Monday	<ul style="list-style-type: none"><li>• Kosmos rated as 'Hold' by Deutsche Bank. (Bloomberg, December 5, 2011, 3:54)</li></ul> <i>(See also: Bloomberg, December 5, 2011, 9:01)</i>			
12/6/2011	Tuesday			<ul style="list-style-type: none"><li>• Anadarko at Capital One Southcoast Energy Conference. "Jubilee is online, it's producing about 80,000 barrels a day. It's not to its peak. We've had some mechanical problems with our completions, the operator is working through those. I think we have the problem identified and a solution sorted. We'll see that by doing the sidetrack now." (Thomson StreetEvents, December 6, 2011, 9:00)</li></ul>	
12/7/2011	Wednesday				
12/8/2011	Thursday		<ul style="list-style-type: none"><li>• "Tullow Oil's Ghana subsidiary isn't involved in talking with Ivory Coast officials over a disputed exploration and production site on the two countries' shared borders.[...] There are growing fears that Ivory Coast claims over part of Ghana's western border may affect operations in the massive offshore Jubilee Field..." (Dow Jones, December 8, 2011, 7:56)</li><li>• Tullow said Jubilee resources are intact, and they hoped to reach the 120,000 bpd target early 2012, "narrowing the possible timing of a target delayed twice already." (Reuters, December 8, 2011, 12:46)</li></ul> <i>(See also: Bloomberg, December 8, 2011, 13:18)</i>		
12/9/2011	Friday				
12/10/2011	Saturday				
12/11/2011	Sunday				
12/12/2011	Monday				

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
12/13/2011	Tuesday	<ul style="list-style-type: none"><li>•A shareholder and consumer rights litigation firm (Zeldes &amp; Haeggquist) has started an investigation into Kosmos to determine whether it has violated securities laws by issuing misleading statements to its shareholders regarding its oil wells and business prospects in West Africa. (Business Wire, December 13, 2011, 15:21)</li><li>• Update on key political risks to watch in Ghana. (Reuters, December 13, 2011, 23:33)</li></ul>			
12/14/2011	Wednesday	<ul style="list-style-type: none"><li>• Kosmos announced it has executed two Production Sharing Contracts with the national oil company of Suriname, for Blocks 42 and 45 offshore Suriname. This is the company's first acreage acquisition outside West Africa and leads to a significant expansion of its exploration portfolio. (Business Wire, December 14, 2011, 8:30) <i>(See also: Bloomberg, December 14, 2011, 8:36)</i></li></ul>			
12/15/2011	Thursday	<ul style="list-style-type: none"><li>• Kosmos Energy named Darrell McKenna as its Chief Operating Officer. (Business Wire, December 15, 2011, 8:30)</li></ul>	<ul style="list-style-type: none"><li>• "Ghana, the world's second-biggest cocoa producer, became an oil exporter in December 2010 with the start of production at the Jubilee field by companies including Tullow Oil Plc." (Bloomberg, December 15, 2011, 5:54)</li></ul>		
12/16/2011	Friday	<ul style="list-style-type: none"><li>• Kosmos raised to 'Overweight' by Barclays Capital. (Bloomberg, December 16, 2011, 2:10) <i>(See also: Bloomberg, December 16, 2011, 3:19; Bloomberg, December 16, 2011, 9:00)</i></li><li>• Kosmos shares rose by 6% and Barclays Capital upgraded it to overweight from equal weight. (MarketWatch, December 16, 2011, 16:39) <i>(See also: Bloomberg, December 16, 2011, 10:25; Bloomberg, December 16, 2011, 11:17; Bloomberg, December 16, 2011, 14:32; Bloomberg, December 16, 2011, 16:23)</i></li></ul>			
12/17/2011	Saturday				
12/18/2011	Sunday				
12/19/2011	Monday				
12/20/2011	Tuesday				
12/21/2011	Wednesday		<ul style="list-style-type: none"><li>• "Ghana became Africa's newest oil exporter in December 2010, when output started at the offshore Jubilee field, which is operated by U.K.-based Tullow Oil Plc." (Bloomberg, December 21, 2011, 10:44)</li></ul>		
12/22/2011	Thursday				<ul style="list-style-type: none"><li>• "Ghana will ship two cargoes of 950,000 barrels each of Jubilee crude in February, unchanged from January, according to a loading program obtained by Bloomberg News." (Bloomberg, December 22, 2011, 6:26) <i>(See also: Bloomberg, December 22, 2011, 12:20)</i></li></ul>
12/23/2011	Friday				
12/24/2011	Saturday				
12/25/2011	Sunday				
12/26/2011	Monday				
12/27/2011	Tuesday				

Exhibit 1  
Summary of Daily News about Kosmos and Jubilee

Date	Day of Week	Kosmos	Tullow and Jubilee	Anadarko and Jubilee	GNPC and Jubilee
12/28/2011	Wednesday				
12/29/2011	Thursday				
12/30/2011	Friday				
12/31/2011	Saturday				
1/1/2012	Sunday				
1/2/2012	Monday				
1/3/2012	Tuesday				
1/4/2012	Wednesday				
1/5/2012	Thursday				
1/6/2012	Friday	• "Partners in Ghana's offshore Jubilee oil field purchased the site's Floating Production Storage and Offloading vessel from Modec Inc., Reuters reported." (Bloomberg, January 6, 2012, 9:37)			• Ghana's state oil company GNPC said partners in Ghana's Jubilee oilfield have bought a Floating Production Storage and Offloading (FPSO) vessel, which can process 120,000 barrels of oil per day and has storage capacity of 1.6 million barrels. (Reuters, January 6, 2012, 8:36)
1/7/2012	Saturday				
1/8/2012	Sunday				
1/9/2012	Monday				
1/10/2012	Tuesday	• The filing date of the First Complaint - end of the Class Period.	• Ghana's economic growth rate fell in the 3rd quarter of 2011 as oil production from Jubilee missed target, still around 85,000 bopd against an initial 120,000 bopd estimate. Tullow said the field had been below expectations because of "temporary technical issues." (Bloomberg, January 10, 2012, 4:06) (See also: Bloomberg, January 10, 2012, 10:43)		

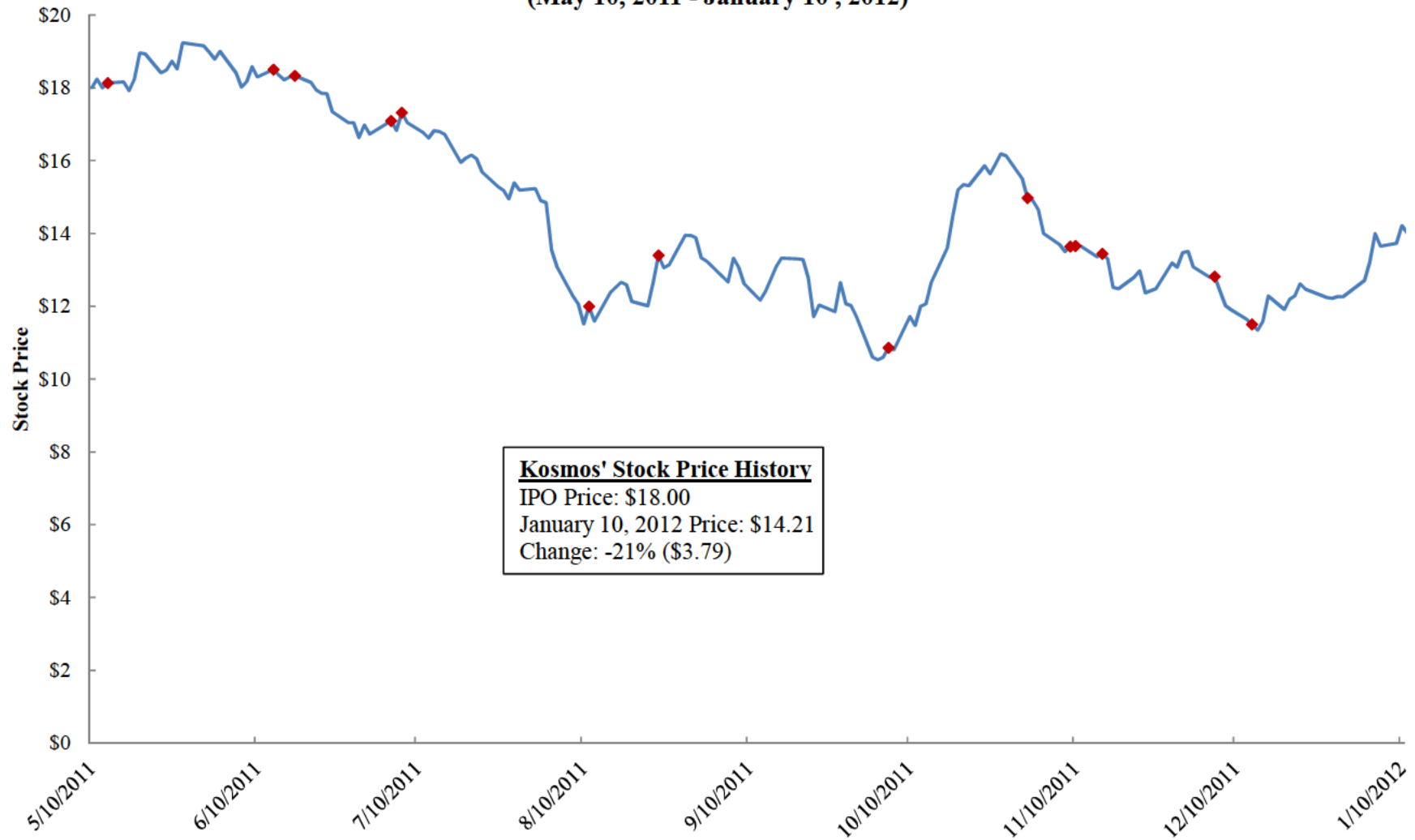
**Exhibit 2**  
**Event Study Results**  
**Kosmos' Returns Adjusted for the S&P 500 Index**  
**and Market Capitalization-Weighted Custom Peer Index**

<b>Event Date</b>	<b>Residual Return</b>	<b>t-statistic</b>	<b>Residual Dollar Amount</b>	<b>Negative, Significant Residual Dollar Amount</b>
<i>May 13, 2011</i>	<i>1.30%</i>	<i>0.52</i>	<i>\$ 0.23</i>	<i>\$ -</i>
<i>June 13, 2011</i>	<i>2.23%</i>	<i>0.88</i>	<i>\$ 0.41</i>	<i>\$ -</i>
<i>June 17, 2011</i>	<i>0.41%</i>	<i>0.17</i>	<i>\$ 0.08</i>	<i>\$ -</i>
<i>July 5, 2011</i>	<i>1.96%</i>	<i>0.78</i>	<i>\$ 0.33</i>	<i>\$ -</i>
<i>July 7, 2011</i>	<i>1.92%</i>	<i>0.77</i>	<i>\$ 0.33</i>	<i>\$ -</i>
<i>August 11, 2011</i>	<i>0.37%</i>	<i>0.14</i>	<i>\$ 0.04</i>	<i>\$ -</i>
<i>August 24, 2011</i>	<i>5.13%</i>	<i>2.04 **</i>	<i>\$ 0.67</i>	<i>\$ -</i>
<i>October 6, 2011</i>	<i>0.62%</i>	<i>0.25</i>	<i>\$ 0.07</i>	<i>\$ -</i>
<i>November 1, 2011</i>	<i>-0.55%</i>	<i>-0.22</i>	<i>\$ (0.08)</i>	<i>\$ -</i>
<i>November 9, 2011</i>	<i>4.84%</i>	<i>1.91 *</i>	<i>\$ 0.64</i>	<i>\$ -</i>
<i>November 10, 2011</i>	<i>-1.24%</i>	<i>-0.50</i>	<i>\$ (0.17)</i>	<i>\$ -</i>
<i>November 15, 2011</i>	<i>0.46%</i>	<i>0.19</i>	<i>\$ 0.06</i>	<i>\$ -</i>
<i>December 6, 2011</i>	<i>0.17%</i>	<i>0.07</i>	<i>\$ 0.02</i>	<i>\$ -</i>
<i>December 13, 2011</i>	<i>0.02%</i>	<i>0.01</i>	<i>\$ 0.00</i>	<i>\$ -</i>

**Notes and Sources:**

- [1] I based the event study on an Ordinary Least Squares regression over the period of May 11, 2011 - January 10, 2012. The first trading day following the IPO (May 11, 2011) was dummied out in the regression.
- [2] I constructed the Market Capitalization-Weighted Custom Peer Index using the 15 U.S. domiciled firms identified as "peer," "comparable," or "comp" in analyst reports covering Kosmos during the Class Period. These 15 U.S. companies are Apache Corporation, Cobalt International Energy, Concho Resources, Devon Energy, Endeavour International, EOG Resources, Newfield Exploration, Noble Energy, Occidental Petroleum, Pioneer Natural Resources, QEP Resources, Range Resources, Rosetta Resources, Southwestern Energy, and Ultra Petroleum. I excluded Anadarko Petroleum from the index because of its ownership interest in Jubilee Field. In addition, I excluded Chesapeake Energy, Denbury Resources, and Petrohawk Energy because they had unresolved securities-related litigation during the Class Period. I weighted the index by the market capitalizations of the constituent firms.
- [3] I controlled for market effects in the regression using the S&P 500 Total Return Index. The estimated regression coefficient on the S&P 500 Total Return Index is 0.32, and is not statistically significantly different from zero. The estimated regression coefficient on the Market Capitalization-Weighted Custom Peer Index is 0.50, and is statistically significantly different from zero at the 95% confidence level.
- [4] \*, \*\*, and \*\*\* denote statistical significance at the 90, 95, and 99 percent levels, respectively.
- [5] Bloomberg, L.P.

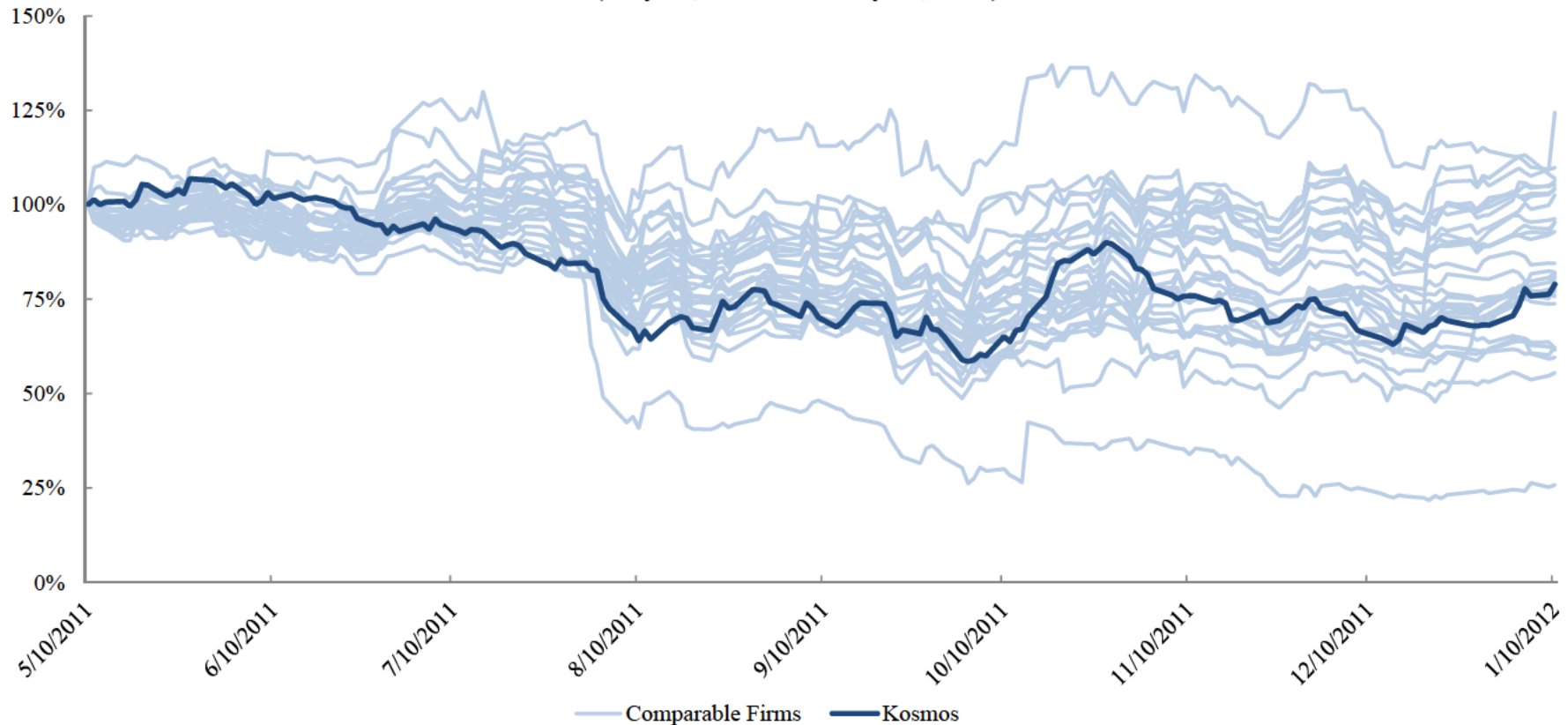
**Exhibit 3**  
**Kosmos' Stock Price**  
**(May 10, 2011 - January 10, 2012)**



**Notes and Sources:**

- [1] Kosmos has never issued a dividend or executed a stock split.
- [2] Red markers represent identified event dates.
- [3] Bloomberg, L.P.

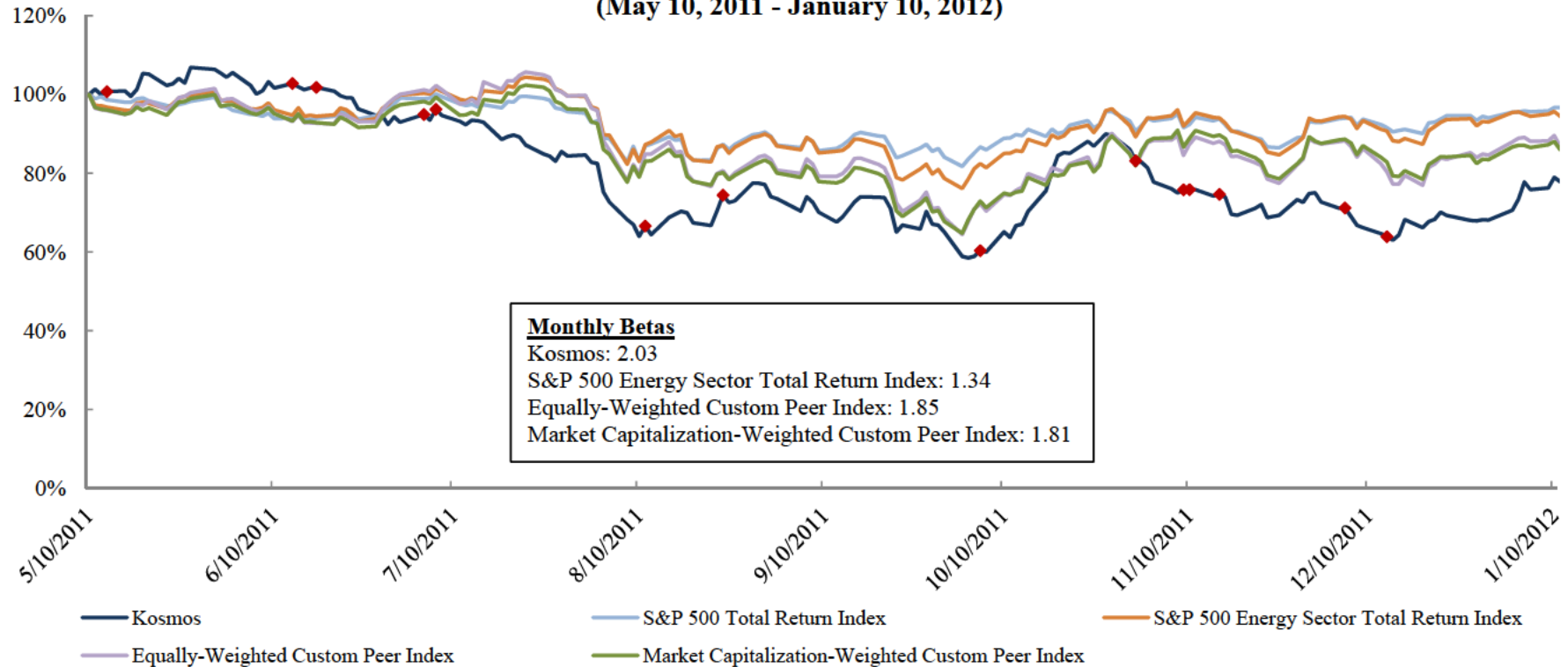
**Exhibit 4**  
**Stock Performance**  
**Kosmos v. Comparable Firms**  
**(May 10, 2011 - January 10, 2012)**



**Notes and Sources:**

- [1] I used prices in each stock's domestic currency, with adjustments for stock splits and dividends.
- [2] I indexed the stock prices to 100% on May 10, 2011.
- [3] I selected the comparable firms by identifying those referred to as "comparable," "comp," or "peer" firms in analyst reports from Barclays, Citi, Credit Suisse, Deutsche Bank, Howard Weil, ISI, Jefferies, RBC, Societe Generale, Standard Bank, and Tudor Pickering Holt during the Class Period (May 10, 2011 - January 10, 2012).
- [4] The comparable firms shown in this exhibit include Anadarko Petroleum, Apache Corporation, BowLeven, Cairn Energy, Canadian Natural Resources, Canadian Oil Sands, Cenovus Energy, Cobalt International Energy, Concho Resources, Devon Energy, EnCana, Endeavour International, EOG Resources, MEG Energy, Newfield Exploration, Nexen, Noble Energy, Occidental Petroleum, Pioneer Natural Resources, Premier Oil, QEP Resources, Range Resources, Rosetta Resources, Soco International, Southwestern Energy, Suncor Energy, Talisman Energy, Tullow Oil, and Ultra Petroleum. I excluded from the set of comparable firms "penny stock" companies, including Afren and Cove Energy, whose average share prices (in U.S. dollars) during the Class Period were less than \$2. I also excluded Chesapeake Energy, Denbury Resources, and Petrohawk Energy because they had unresolved securities-related litigation during the Class Period.
- [5] Bloomberg, L.P.

**Exhibit 5**  
**Stock Performance**  
**Kosmos v. Market and Industry Indices**  
**(May 10, 2011 - January 10, 2012)**



**Notes and Sources:**

[1] I indexed the stock prices and index values to 100% on May 10, 2011.

[2] I constructed the Equally-Weighted and Market Capitalization-Weighted Custom Peer Indices using the 15 U.S. domiciled firms identified as "peer," "comparable," or "comp" in analyst reports covering Kosmos during the Class Period. These 15 U.S. companies are Apache Corporation, Cobalt International Energy, Concho Resources, Devon Energy, Endeavour International, EOG Resources, Newfield Exploration, Noble Energy, Occidental Petroleum, Pioneer Natural Resources, QEP Resources, Range Resources, Rosetta Resources, Southwestern Energy, and Ultra Petroleum. I excluded Anadarko Petroleum from the indices because of its ownership interest in Jubilee Field. In addition, I excluded Chesapeake Energy, Denbury Resources, and Petrohawk Energy because they had unresolved securities-related litigation during the Class Period.

[3] I obtained monthly betas for Kosmos and the S&P 500 Energy Sector Total Return Index from Bloomberg, L.P. for the period from May 2011 to October 2013. I estimated monthly betas for the Equally-Weighted Custom Peer Index and Market Capitalization-Weighted Custom Peer Index using a linear regression that mirrors Bloomberg, L.P.'s methodology.

[4] Red markers represent identified event dates.

[5] Bloomberg, L.P.

## **APPENDIX A**

### **ROBERT GLENN HUBBARD**

#### *Curriculum Vitae*

#### **PERSONAL DATA**

Born: In Orlando, Florida.  
Marital Status: Married, two children.

#### **FIELDS OF SPECIALIZATION**

Public Economics, Corporate Finance and Financial Institutions, Macroeconomics, Industrial Organization, Natural Resource Economics, Public Policy.

#### **EDUCATION**

Ph.D., Economics, Harvard University, May 1983.  
Dissertation: *Three Essays on Government Debt and Asset Markets*, supervised by Benjamin M. Friedman, Jerry A. Hausman, and Martin S. Feldstein.  
A.M., Economics, Harvard University, May 1981.  
B.A., B.S., Economics, University of Central Florida, June 1979, *summa cum laude*.

#### **HONORS AND AWARDS**

Bloomberg Markets, 50 Most Influential Members of the Global Financial Community, 2012.  
National Association of Corporate Directors, Directorship 100: People to Watch, 2011.  
Joint American Economic Association/American Finance Association Distinguished Speaker, 2008.  
Cairncross Lecture, University of Oxford, 2007.  
Fellow of the National Association of Business Economists, 2005.  
William F. Butler Memorial Award, New York Association of Business Economists Award, 2005.  
Exceptional Service Award, The White House, 2002.  
Michelle Akers Award for Distinguished Service, University of Central Florida, 2001.

Alumni Hall of Fame, University of Central Florida, 2000.

Best Paper Award for Corporate Finance, Western Finance Association, 1998.

Exceptional Service Award, U.S. Department of the Treasury, 1992.

Distinguished Alumnus Award, University of Central Florida, 1991.

John M. Olin Fellowship, National Bureau of Economic Research, 1987-1988.

Teaching Commendations, Graduate School of Business, Columbia University.

Northwestern University Associated Student Government Teaching Awards, announced in 1985, 1986, and 1987.

Graduate Distinctions: National Science Foundation Fellowship, Alfred P. Sloan Foundation Fellowship.

Undergraduate Distinctions: National Merit Scholarship, National Society of Professional Engineers Award, Florida Society of Professional Engineers Award, National Council of Teachers of English Award, Omicron Delta Kappa, Financial Management Association Honor Society.

## **POSITIONS HELD**

2004-present	Dean, Graduate School of Business, Columbia University
1994-present	Russell L. Carson Professor of Economics and Finance, Graduate School of Business, Columbia University
1997-present	Professor of Economics, Faculty of Arts and Sciences, Columbia University
2007-present	Panel of Economic Advisors, Federal Reserve Bank of New York (also 1993-2001)
2003-present	Featured commentator, <i>Nightly Business Report</i>
2003-2010	Featured commentator, <i>Marketplace</i>
2003-2007	Visiting Scholar American Enterprise Institute (also 1995-2001)
1999-2004	Co-Director, Columbia Business School Entrepreneurship Program
2004-2005	Viewpoint Columnist, <i>Business Week</i>
2004-2006	Member, Panel of Economic Advisors, Congressional Budget Office
2001-2003	Chairman, President's Council of Economic Advisers

2001-2003	Chairman, Economic Policy Committee, Organization for Economic Cooperation and Development
2001-2003	Member, White House National Economic Council and National Security Council
2001-2003	Member, President's Council on Science and Technology
1997-1998	Visiting Professor of Business Administration, Harvard Business School
1995-2001	Visiting Scholar and Director of Tax Policy Program, American Enterprise Institute
1994-1997	Senior Vice Dean, Graduate School of Business, Columbia University
1994	MCI Fellow, American Council for Capital Formation
1994	John M. Olin Visiting Professor, Center for the Study of Economy and the State, University of Chicago
1991-1993	Deputy Assistant Secretary (Tax Analysis), U.S. Department of the Treasury
1988-present	Professor of Economics and Finance, Graduate School of Business, Columbia University
1987-1988	John M. Olin Fellow in residence at the National Bureau of Economic Research
1983-1988	Assistant Professor of Economics, Northwestern University, with half-time research appointment in the Center for Urban Affairs and Policy Research
1985	Visiting Scholar, Center for Business and Government, John F. Kennedy School of Government, Harvard University
1981-1983	Teaching Fellow (Department of Economics) and Resident Tutor in Economics (Dunster House), Harvard University

## **DIRECTORSHIPS**

2007-present	Met Life
2006-2008	Capmark Financial Corporation; Information Services Group

2004-present	ADP, Inc.; KKR Financial Corporation; BlackRock Closed-End Funds
2004-2008	Duke Realty Corporation
2004-2006	Dex Media/R.H. Donnelley
2003-2005	ITU Ventures
2000-2001	Angel Society, LLC; Information Technology University, LLC

#### **CONSULTING OR ADVISORY RELATIONSHIPS**

2005-2009	Arcapita
2005-2010	Nomura Holdings America
2007-present	Consulting or Speaking Engagements at Some Point During the Past Five Years: U.S. Department of Justice, Airgas, Alternative Investment Group, American Century, America's Health Insurance Plans, ApexBrasil, Association for Corporate Growth, Bank of America, Bank of New York Mellon, Barclays Services Corporation, BNP Paribas, Capital Research, Citigroup, Deutsche Bank, Fidelity, Franklin Resources, Freddie Mac, Goldman Sachs, Intel, JP Morgan Chase, Microsoft, National Rural Utilities Cooperative Finance Corporation, NMS Group, Oracle, Pension Real Estate Association, Real Estate Roundtable, Reynolds American, Royal Bank of Scotland, Visa, Wells Fargo
2008	Laurus Funds
2005-2008	Chart Venture Partners
2003-2009	Ripplewood Holdings

#### **POSTS IN NON-PROFIT ORGANIZATIONS**

2012-present	Trustee, Fifth Avenue Presbyterian Church, New York
2006-present	Co-Chair, Committee on Capital Markets Regulation

2004-present	Member, Advisory Board, National Center on Addiction and Substance Abuse
2003-present	Member, Manhattan District Council Board, Boy Scouts of America
2010-2011	Co-Chair, The Study Group on Corporate Boards
2008-2011	Elder, Fifth Avenue Presbyterian Church
2008-2010	Chairman, Economic Club of New York
2006-2008	Member, Board of Directors, Resources for the Future
2003-2008	Trustee, Tax Foundation
2004-2010	Trustee, Economic Club of New York
2004-2007	Trustee, Fifth Avenue Presbyterian Church, New York

## PROFESSIONAL ACTIVITIES

1987-present	Research Associate, National Bureau of Economic Research (Monetary Economics, Corporate Finance, Public Economics, Economic Fluctuations, Industrial Organization)
2007-present	Life Member, Council on Foreign Relations
2003	Member, Committee of Visitors, National Science Foundation
2000	Panelist, Graduate Fellowship Selection Committee, National Science Foundation
1999-2001	Director, Project on Nonprofit Organizations, National Bureau of Economic Research
1997-2001	Member, COSSA-Liaison Committee, American Economic Association
1993-2001	Board of Advisors, Institutional Investor Project, School of Law, Columbia University
1995-1999	Member, Board of Academic Consultants, American Law Institute
1997	Member, Grants Panel for Integrative Graduate Education and Research Training Program, National Science Foundation
1994-1996	Member, Economics Grants Panel, National Science Foundation

1993-1996	Member, Federal Taxation and Finance Committee, National Tax Association
1990-1995	Co-organized research program on International Aspects of Taxation at the National Bureau of Economic Research, Cambridge, Massachusetts
1995	Member, Program Committee, American Economic Association Meeting
1983-1987	Faculty Research Fellow, National Bureau of Economic Research
1983-1986	Adjunct Faculty Research Fellow, Energy and Environmental Policy Center, John F. Kennedy School of Government, Harvard University, Cambridge, Massachusetts
1986, 1988, 1994	Member of the Brookings Panel on Economic Activity
1985, 1987	Special guest of the Brookings Panel on Economic Activity
1990-1991	Organized research program on Environmental Economics and Public Policy at the National Bureau of Economic Research, Cambridge, Massachusetts
1988-1990	Co-organized research program on Dynamic Models of Firms and Industries at the National Bureau of Economic Research, Cambridge, Massachusetts
1985-1989	Organized research program and workshops on contracting in financial markets at the Summer Institute, National Bureau of Economic Research, Cambridge, Massachusetts
1988	Organized Economic Fluctuations program on Industrial Economics and Macroeconomics, National Bureau of Economic Research, Stanford, California
1986-1988	Organized research program and workshop on links between macroeconomics and industrial organization at the Summer Institute, National Bureau of Economic Research, Cambridge, Massachusetts
1991	Member, Program Committee, Econometric Society Winter Meetings
1982-1983	Member, Energy Modeling Forum VII Study Group, Stanford University, Stanford, California

1981-present	Consultant on research projects with private corporations and government and international agencies, including the Internal Revenue Service, Social Security Administration, U.S. Department of Energy, U.S. Department of State, U.S. Department of Treasury, and U.S. International Trade Commission; National Science Foundation; The World Bank; Board of Governors of the Federal Reserve System; Federal Reserve Bank of New York; Congressional Budget Office
Member:	American Economic Association, American Finance Association, Association for Public Policy and Management, Econometric Society, International Association of Energy Economists, National Tax Association, the Royal Economic Society, and the Institute for Management Science
Referee:	<i>American Economic Review; Canadian Journal of Economics; Columbia Journal of World Business; Econometrica; Economic Journal; Energy Economics; Energy Journal; International Finance; International Tax and Public Finance; Journal of Business; Journal of Business and Economic Statistics; Journal of Economic History; Journal of Economic Literature; Journal of Finance; Journal of Financial Economics; Journal of Financial Intermediation; Journal of Financial and Quantitative Analysis, Journal of Financial Services Research; Journal of Industrial Economics; Journal of International Money and Finance; Journal of Law and Economics; Journal of Macroeconomics; Journal of Money, Credit, and Banking; Journal of Monetary Economics; Journal of Political Economy; Journal of Public Economics; Journal of Regulatory Economics; Journal of Small Business Finance; Management Science; National Tax Journal; Quarterly Journal of Economics; Quarterly Review of Economics and Finance; RAND Journal of Economics; Review of Economic Dynamics; Review of Economic Studies; Review of Economics and Statistics; Review of Financial Economics; Scandinavian Journal of Economics; Southern Economic Journal; National Science Foundation; C.V. Starr Center for Applied Economics (New York University); Addison-Wesley Publishing Company; Ballinger Press; Cambridge University Press; Harvard Business School Press; MIT Press; W.W. Norton; Oxford University Press</i>
Associate Editor:	<i>Journal of Applied Corporate Finance</i>
Former Associate Editor:	<i>Federal Reserve Bank of New York Economic Policy Review; International Finance; International Tax and Public Finance; Journal of Industrial Economics; Journal of Macroeconomics; Journal of Small Business Finance; National Tax Journal</i>

## **PUBLICATIONS AND PAPERS**

### **Edited Volumes**

*Transition Costs of Fundamental Tax Reform* (with K.A. Hassett), Washington, DC: AEI Press, 2001.

*Inequality and Tax Policy* (with K.A. Hassett), Washington, DC: AEI Press, 2001.

*Effects of Taxation on Multinational Corporations* (with M. Feldstein and J.R. Hines), Chicago: University of Chicago Press, 1995.

*Taxing Multinational Corporations* (with M. Feldstein and J. R. Hines), Chicago: University of Chicago Press, 1995.

*Studies in International Taxation* (with A. Giovannini and J. B. Slemrod), Chicago: University of Chicago Press, 1993.

*Financial Markets and Financial Crises*, Chicago: University of Chicago Press, 1991.

*Asymmetric Information, Corporate Finance, and Investment*, Chicago: University of Chicago Press, 1990.

### **Books**

*Healthy, Wealthy, and Wise* (with J.F. Cogan and D.P. Kessler), Hoover Institution Press and AEI Press, 1<sup>st</sup> ed., 2005; 2<sup>nd</sup> ed., 2011.

*Seeds of Destruction* (with P. Navarro), FT Publishing, 2010.

*The Mutual Fund Industry: Competition and Investor Welfare* (with M.F. Koehn, S.I. Ornstein, M. Van Audenrode, and J. Royer), New York: Columbia Business School Publishing, 2010.

*The Aid Trap: Hard Truths About Ending Poverty* (with W. Duggan), Columbia Business School Publishing, 2009

### **Textbooks**

*Principles of Economics* (with A.P. O'Brien), Pearson Prentice Hall, 1<sup>st</sup> ed., 2006; 2<sup>nd</sup> ed., 2008; 3<sup>rd</sup> ed., 2010.

*Money, Banking, and the Financial System* (with A.P. O'Brien), Pearson Prentice Hall, 1<sup>st</sup> ed., 2012; 2<sup>nd</sup> ed., 2013.

*Macroeconomics* (with A.P. O'Brien and M. Rafferty), Pearson Prentice Hall, 1<sup>st</sup> ed., 2012

*Money, the Financial System, and the Economy*, Reading: Addison-Wesley Publishing Company, 1<sup>st</sup> ed., 1994; 2<sup>nd</sup> ed., 1997; 3<sup>rd</sup> ed., 2000; 4<sup>th</sup> ed., 2002; 5<sup>th</sup> ed., 2004; 6<sup>th</sup> ed., 2007.

## **Publications**

### *Articles*

“Reforming the Tax Preference for Employer Health Insurance” (with J. Bankman, J.F. Cogan, and D.P. Kessler), *Tax Policy and the Economy*, volume 26, Cambridge, University of Chicago Press, 2012.

“Consequences of Government Deficits and Debt,” *International Journal of Central Banking* 8: Supplement 1(January 2012) 203-235.

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“The Effect of Medicare Coverage for the Disabled on the Market for Private Insurance” (with J.F. Cogan and D.P. Kessler), *Journal of Health Economics* 29 (2010): 418-428.

“The Effect of Massachusetts’ Health Reform on Employer-Sponsored Insurance Premiums” (with J.F. Cogan and D.P. Kessler), *Forum for Health Economics and Policy*, 2010.

“The Mortgage Market Meltdown and House Prices” (with C. Mayer), *The B.E. Journal of Economic Analysis & Policy* 9: Issue 3 (Symposium), Article 8 (2009).

“Competition in the Mutual Fund Industry: Evidence and Implications for Policy” (with J. Coates), *Journal of Corporation Law*, 33 (Fall 2007).

“Evaluating Effects of Tax Preferences on Health Care Spending and Federal Revenues” (with J.F. Cogan and D.P. Kessler), in J.M. Poterba, ed., *Tax Policy and the Economy*, volume 21, Cambridge: MIT Press, 2007.

“To Bundle or Not to Bundle: Firms’ Choices Under Pure Building” (with A. Saha and J. Lee), *International Journal of the Economics of Business*, 14 (2007): 59-83.

"The Effects of Progressive Income Taxation on Job Turnover" (with W.M. Gentry), *Journal of Public Economics* 88 (September 2004): 2301-2322.

“Business, Knowledge, and Global Growth”, *Capitalism and Society*, 1 (2006).

“Precautionary Savings and the Governance of Nonprofit Organizations” (with R. Fisman), *Journal of Public Economics*, 2005.

“Government Debt and Interest Rates” (with E. Engen), in M. Gertler and K. Rogoff, *NBER Macroeconomics Annual 2004*, Cambridge: MIT Press, 2005.

“Entrepreneurship and Household Saving” (with W.M. Gentry), *Advances in Economic Analysis and Policy*, 4 (2004).

“Taxing Multinationals” (with M. Devereux), *International Taxation and Public Finance* 10(2003):469-487.

“The Effect of the Tax Reform Act of 1986 on the Location of Assets in Financial Services Firms” (with R. Altshuler), *Journal of Public Economics* 87 (January 2003):109-127.

“The Role of Nonprofit Endowments” (with R. Fisman), in E. Glaeser, ed., *The Governance of Not-For-Profit Organizations*, Chicago: University of Chicago Press, 2003.

“Are There Bank Effects in Borrowers’ Costs of Funds?: Evidence from a Matched Sample of Borrowers and Banks” (with K.N. Kuttner and D.N. Palia), *Journal of Business* 75 (October 2002): 559-581.

“The Share Price Effects of Dividend Taxes and Tax Imputation Credits” (with T.S. Harris and D. Kemsley), *Journal of Public Economics* 79 (March 2001): 569-596.

“Tax Policy and Entrepreneurial Entry” (with W.M. Gentry), *American Economic Review* 90 (May 2000): 283-287.

“Understanding the Determinants of Managerial Ownership and the Link Between Ownership and Performance” (with C.P. Himmelberg and D. Palia), *Journal of Financial Economics* 53 (1999): 353-384.

“A Reexamination of the Conglomerate Merger Wave in the 1960s” (with D. Palia), *Journal of Finance* 54 (June 1999): 1131-1152.

“Inflation and the User Cost of Capital: Does Inflation Still Matter?” (with D. Cohen and K.A. Hassett), in M. Feldstein, ed., *The Costs and Benefits of Achieving Price Stability*, Chicago: University of Chicago Press, 1999.

“Are Investment Incentives Blunted by Changes in Prices of Capital Goods?: International Evidence” (with K.A. Hassett), *International Finance* 1 (October 1998): 103-125.

“Capital-Market Imperfections and Investment,” *Journal of Economic Literature* 36 (March 1998): 193-225.

“Fundamental Tax Reform and Corporate Financial Policy” (with W.M. Gentry), in J.M. Poterba, ed., *Tax Policy and the Economy*, volume 12, Cambridge: MIT Press, 1998.

“Distributional Implications of Introducing a Broad-Based Consumption Tax” (with W.M. Gentry), in J.M. Poterba, ed., *Tax Policy and the Economy*, volume 11, Cambridge: MIT Press, 1997.

“How Different Are Income and Consumption Taxes?,” *American Economic Review* 87 (May 1997): 138-142.

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"The Political Economy of Branching Restrictions and Deposit Insurance: A Model of Monopolistic Competition Among Small and Large Banks" (with N. Economides and D. Palia), *Journal of Law and Economics* 39 (October 1996): 667-704.

"Tax Reforms and Investment: A Cross-Country Comparison" (with J.G. Cummins and K.A. Hassett), *Journal of Public Economics* 62 (1996): 237-273.

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"Executive Pay and Performance: Evidence from the U.S. Banking Industry" (with D. Palia), *Journal of Financial Economics* 39 (1995): 105-130.

"Tax Policy, Internal Finance, and Investment: Evidence from the Undistributed Profits Tax of 1936-1937" (with C. Calomiris), *Journal of Business* 68 (October 1995): 443-482.

"A Reconsideration of Investment Behavior Using Tax Reforms as Natural Experiments" (with J.G. Cummins and K.A. Hassett), *Brookings Papers on Economic Activity* (1994:2): 1-59.

"Precautionary Saving and Social Insurance" (with J. Skinner and S. Zeldes), *Journal of Political Economy* 105 (April 1995): 360-399.

"Expanding the Life-Cycle Model: Precautionary Saving and Public Policy" (with J. Skinner and S. Zeldes), *American Economic Review* 84 (May 1994): 174-179.

"The Tax Sensitivity of Foreign Direct Investment: Evidence from Firm-Level Panel Data" (with J. Cummins), in M. Feldstein, J.R. Hines, and R.G. Hubbard, eds., *Effects of Taxation on Multinational Corporations*, Chicago: University of Chicago Press, 1995.

"International Adjustment Under the Classical Gold Standard: Evidence for the U.S. and Britain, 1879- 1914" (with C. Calomiris), in T. Bauoumi, B. Eichengreen, and M. Taylor, eds., *Modern Perspectives on the Gold Standard*, Cambridge: Cambridge University Press, 1995.

"Internal Finance and Firm-Level Investment" (with A. Kashyap and T. Whited), *Journal of Money, Credit, and Banking* 27 (August 1995): 683-701.

"Do Tax Reforms Affect Investment?" (with J.G. Cummins and K.A. Hassett), in J.M. Poterba, ed., *Tax Policy and the Economy*, vol. 9, Cambridge: MIT Press, 1995.

"The Importance of Precautionary Motives for Explaining Individual and Aggregate Saving" (with J. Skinner and S. Zeldes), *Carnegie-Rochester Conference Series on Public Policy* 40 (June 1994): 59-126.

"Corporate Financial Policy, Taxation, and Macroeconomic Risk" (with M. Gertler), *RAND Journal of Economics* 24 (Summer 1993): 286-303.

"Internal Net Worth and the Investment Process: An Application to U.S. Agriculture" (with A. Kashyap), *Journal of Political Economy* 100 (June 1992): 506-534.

"Long-Term Contracting and Multiple-Price Systems" (with R. Weiner), *Journal of Business* 65 (April 1992): 177-198.

"Efficient Contracting and Market Power: Evidence from the U.S. Natural Gas Industry" (with R. Weiner), *Journal of Law and Economics* 34 (April 1991): 25-67.

"Interest Rate Differentials, Credit Constraints, and Investment Fluctuations" (with M. Gertler and A. Kashyap), in R.G. Hubbard, ed., *Financial Markets and Financial Crises*, Chicago: University of Chicago Press, 1991.

"Taxation, Corporate Capital Structure, and Financial Distress" (with M. Gertler), in L.H. Summers, ed., *Tax Policy and the Economy*, volume 4, Cambridge: MIT Press, 1990.

"Firm Heterogeneity, Internal Finance, and Credit Rationing" (with C. Calomiris), *Economic Journal* 100 (March 1990): 90-104.

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"Price Flexibility, Credit Availability, and Economic Fluctuations: Evidence from the U.S., 1894-1909" (with C. Calomiris), *Quarterly Journal of Economics* 104 (August 1989): 429-452.

"Financial Factors in Business Fluctuations" (with M. Gertler), in Federal Reserve Bank of Kansas City, *Financial Market Volatility--Causes, Consequences, and Policy Responses*, 1989.

"Contracting and Price Adjustment in Commodity Markets: Evidence from Copper and Oil" (with R. Weiner), *Review of Economics and Statistics* 71 (February 1989): 80-89.

"Financing Constraints and Corporate Investment" (with S. Fazzari and B.C. Petersen), *Brookings Papers on Economic Activity*, 1988:1: 141-195; Reprinted in Z.J. Acs, ed., *Small Firms and Economic Growth*, Cheltenham, U.K.: Edward Elgar Publishing Ltd., 1995.

"Investment, Financing Decisions, and Tax Policy" (with S. Fazzari and B.C. Petersen), *American Economic Review* 78 (May 1988): 200-205.

"Market Structure and Cyclical Fluctuations in U.S. Manufacturing" (with I. Domowitz and B.C. Petersen), *Review of Economics and Statistics* 70 (February 1988): 55-66.

"Capital Market Imperfections and Tax Policy Analysis in the Life-Cycle Model" (with K. Judd), *Annales d' Economie et de Statistique* 9 (January-March 1988): 111-139.

"Social Security and Individual Welfare: Precautionary Saving, Borrowing Constraints, and the Payroll Tax" (with K. Judd), *American Economic Review* 77 (September 1987): 630-646.

"Oligopoly Supergames: Some Empirical Evidence on Prices and Margins" (with I. Domowitz and B.C. Petersen), *Journal of Industrial Economics* 36 (June 1987): 379-398.

"Uncertain Lifetimes, Pensions, and Individual Saving," in Zvi Bodie, John B. Shoven, and David A. Wise (eds.), *Issues in Pension Economics*, Chicago: University of Chicago Press, 1987, pp. 175-205.

"The Farm Debt Crisis and Public Policy" (with C. Calomiris and J. Stock), *Brookings Papers on Economic Activity*, 1986:2: 441-479.

"Liquidity Constraints, Fiscal Policy, and Consumption" (with K. Judd), *Brookings Papers on Economic Activity*, 1986:1: 1-50.

"The Intertemporal Stability of the Concentration-Margins Relationship" (with I. Domowitz and B.C. Petersen), *Journal of Industrial Economics* 35 (September 1986): 13-34.

"Pension Wealth and Individual Saving: Some New Evidence," *Journal of Money, Credit, and Banking* 18 (May 1986): 167-178.

"Supply Shocks and Price Adjustment in the World Oil Market," *Quarterly Journal of Economics* 101 (February 1986): 85-102.

"Regulation and Long-Term Contracts in U.S. Natural Gas Markets" (with R. Weiner), *Journal of Industrial Economics* 35 (September 1986): 51-71.

"Business Cycles and the Relationship Between Concentration and Price-Cost Margins" (with I. Domowitz and B.C. Petersen), *RAND Journal of Economics* 17 (Spring 1986): 1-17.

"Inventory Optimization in the U.S. Petroleum Industry: Empirical Analysis and Implications for Energy Emergency Policy" (with R. Weiner), *Management Science* 32 (July 1986): 773-790.

"Social Security, Liquidity Constraints, and Pre-Retirement Consumption," *Southern Economic Journal* 51 (October 1985): 471-484.

"Personal Taxation, Pension Wealth, and Portfolio Composition," *Review of Economics and Statistics* 67 (February 1985): 53-60.

"Industry Margins and the Business Cycle: Some New Microeconomic Evidence" (with I. Domowitz and B.C. Petersen), *Economics Letters* 19 (1985): 73-77.

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“Back to the Future: The Marshall Plan” (with W. Duggan), in C. Schramm, ed.

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### ***Comments, Notes, and Reviews***

"Comment" on A.J. Auerbach, "The Choice Between Income and Consumption Tax: A Primer," in A.J. Auerbach and D. Shaviro, eds., *Key Issues in Public Finance: Essays In Honor of David Bradford*, forthcoming.

"Book Reviews" on Randall S. Kroszner and Robert J. Shiller, ed., "Reforming U.S. Financial Markets: Reflections before and beyond Dodd-Frank," in *Book Reviews*, *Journal of Economic Literature*, 49 (December 2011): 1278-81.

"Pay Without Performance: A Market Equilibrium Critique," *Journal of Corporation Law* 30 (Summer 2005): 717-720.

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"Comment" on Charles Handlock, Joel Houston, and Michael Ryngaert, "The Role of Managerial Incentives in Bank Acquisitions," *Journal of Banking and Finance* 23 (1999): 250-254.

"Comment" on D.H. Moss, "Courting Disaster?: The Transformation of Federal Disaster Policy Since 1903," in K.A. Froot, ed., *The Financing of Catastrophic Risk*, Chicago: University of Chicago Press, 1999.

"Market for Corporate Control" (with D. Palia), in P. Newman, ed., *The New Palgrave Dictionary of Economics and the Law*, London: Macmillan, 1998.

"Comment" on Joseph Peek and Eric Rosengren, "Do Monetary Policy and Regulatory Policy Affect Bank Loans?" in *Is Bank Lending Important for the Transmission of Monetary Policy?* Federal Reserve Bank of Boston, Conference Series (Proceedings) 39 (1995): 47-79.

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"Market Structure and Cyclical Fluctuations in U.S. Manufacturing: Reply" (with I. Domowitz and B.C. Petersen), *Review of Economics and Statistics*, 1993.

"Introduction," in R.G. Hubbard, ed., *Financial Markets and Financial Crises*, Chicago: University of Chicago Press, 1991.

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"Comment" on Alberto Giovannini and James R. Hines, Jr., "Capital Flight and Tax Competition: Are There Viable Solutions to Both Problems?," in A. Giovannini and C. Mayer, eds., *European Financial Integration*, London: Centre for Economic Policy Research, 1990.

"Comment" on Roger H. Gordon and Jeffrey K. MacKie-Mason, "Effects of the Tax Reform Act of 1986 on Corporate Financial Policy and Organizational Form," in J.B. Slemrod, ed., *Do Taxes Matter?: Economic Impacts of the Tax Reform Act of 1986*, Cambridge: MIT Press, 1990.

"Comment" on James M. Poterba, "Tax Policy and Corporate Saving," *Brookings Papers on Economic Activity*, 1987:2.

"Comment" on Robert E. Hall, "Market Structure and Macro Fluctuations," *Brookings Papers on Economic Activity*, 1986:2.

"Comment" on Alan S. Blinder and Angus Deaton, "The Time-Series Consumption Function Revisited," *Brookings Papers on Economic Activity*, 1985:2.

"Comment" on Benjamin S. Friedman and Mark Warshawsky, "The Cost of Annuities: Implications for Saving Behavior and Bequests," in Zvi Bodie, John Shoven, and David Wise (eds.), *Pensions in the U.S. Economy*, Chicago: University of Chicago Press, 1987.

"Energy Security: Book Reviews," *Energy Journal* 4 (April 1983).

"When the Oil Spigot is Suddenly Turned Off: Some Further Thoughts" (with R. Weiner), *Journal of Policy Analysis and Management* 2 (Winter 1983).

### ***Submitted Papers and Working Papers***

"Analysis of Discrimination in Prime and Subprime Mortgage Markets" (with Darius Palia and Wei Yu), Working Paper, Columbia University, 2011.

"The Elasticity of Deferred Income With Respect to Marginal Income Tax Rates" (with K.A. Hassett and A. Mathur), Working Paper, Columbia University, 2011.

"Tax Policy and Wage Growth" (with W. M. Gentry), Working Paper, Columbia University, 2001.

"Investor Protection, Ownership, and Investment" (with C.P. Himmelberg and I. Love), Working Paper, Columbia University, 2000.

"Incentive Pay and the Market for CEOs: An Analysis of Pay-for-Performance Sensitivity" (with C.P. Himmelberg), Working Paper, Columbia University, 2001.

"Noncontractible Quality and Organizational Form in the U.S. Hospital Industry," (with K.A. Hassett), Working Paper, Columbia University, 1999.

"Entrepreneurship and Household Saving," (with W. M. Gentry), Working Paper, Columbia University, 2001.

"Corporate Payouts and the Tax Price of Corporate Retentions: Evidence from the Undistributed Profits Tax of 1936-37" (with P. Reiss), Working Paper No. 3111, National Bureau of Economic Research, September 1989.

"Market Structure, Durable Goods, and Cyclical Fluctuations in Markups" (with I. Domowitz and B. Petersen), Working Paper, Northwestern University, 1987.

"Finite Lifetimes, Borrowing Constraints, and Short-Run Fiscal Policy" (with K. Judd), Working Paper No. 2158, National Bureau of Economic Research, 1987.

## **GRANTS RECEIVED**

"Corporate Board Study Group," Rockefeller Foundation, 2009.

"Institutional Investors, Boards of Directors, and Corporate Governance," Korn/Ferry, 1997.

"An Economic Analysis of Saving Incentives," Securities Industry Association, 1994, with Jonathan Skinner.

"Securities Transactions Taxes: Tax Design, Revenue, and Policy Considerations," Catalyst Institute, 1993.

"Precautionary Saving in the U.S. Economy," Bradley Foundation, 1989-1990, with Jonathan Skinner and Stephen Zeldes.

"Taxation, Corporate Leverage, and Financial Distress," Garn Institute for Finance, 1989-1990.

"Precautionary Saving in a Dynamic Model of Consumption and Labor Supply," National Science Foundation (Economics Group SES-8707997), 1987-1989, with Jonathan Skinner and Stephen Zeldes.

"Industrial Behavior and the Business Cycle: A Panel Data Study of U.S. Manufacturing," National Science Foundation (Economics Group SES-8420152), 1985-1987, with Ian Domowitz and Bruce Petersen.

"Efficient Contracting and Market Power: Evidence from the U.S. Natural Gas Market," Transportation Center, Northwestern University, Summer 1985.

"Constructing a Panel Data Base for Studies of U.S. Manufacturing," University Research Grants Committee, Northwestern University, 1985-1986.

"Economic Analysis of Multiple-Price Systems: Theory and Application," National Science Foundation (Regulatory Analysis and Policy Group, SES-8408805), 1984-1985.

"Contracting and Price Adjustment in Product Markets," University Research Grants Committee, Northwestern University, 1983-1984.

## **PAPERS PRESENTED**

### ***University Seminars***

Bard College, University of Bergamo, University of California (Berkeley), University of California (Los Angeles), University of California (San Diego), Carleton, University of Chicago, Columbia, University of Dubuque, Emory, University of Florida, University of Central Florida, Florida Atlantic University, George Washington, Georgetown, Harvard, Hendrix College, University of Illinois, Indiana University, Johns Hopkins, Laval, Lehigh, University College (London), University of Kentucky, London School of Economics, MIT, University of Maryland, University of Miami, Miami University, University of Michigan, University of Minnesota, New York University, Northwestern, Oxford, University of Pennsylvania, Princeton, Rice, University of Rochester, Stanford, Syracuse, University of Miami, University of Texas, Texas Tech University, Tufts, University of Virginia, University of Wisconsin (Madison), University of Wisconsin (Milwaukee), Virginia Tech, and Yale.

### ***Conference Papers Presented***

American Council for Capital Formation, Washington, DC, June 1994.

American Economic Association, Chicago, 2012; New Orleans, 2008; Chicago 2007; Boston, 2006; Philadelphia, 2005; San Diego, January 2004; Atlanta, January 2002; New Orleans, January 2001; Boston, January 2000; New York, January 1999; New Orleans, January 1997; San Francisco, January 1996; Washington, D.C., January 1995; Boston, January 1994; Anaheim, January 1993; Washington, D.C., December 1990; Atlanta, December 1989; New York, December 1988; Chicago, December 1987; New Orleans, December 1985; Dallas, December 1984.

American Enterprise Institute, Conference on Private Equity, 2007; Conference on Corporate Taxation, 2006; Conference on Multinational Corporations, 2004, 2003; Conference on Multinational Corporations, February 1999; Conference on Income Inequality, January 1999; Conference on Transition Costs of Fundamental Tax Reform, November 1998; Conference Series on Social Insurance Reform, 1997-1998; Conference Series on Fundamental Tax Reform, 1995-1998; Conference on Distributional Analysis of Tax Policies, Washington, D.C., December 1993.

American Finance Association, New Orleans, January 2008; San Diego, January 2004; Boston, January 2000; New York, January 1999; New Orleans, January 1997.

Association of Environmental and Resource Economists, Dallas, December 1984; San Francisco, December 1983.

Association of Public Policy Analysis and Management, New Orleans, October 1984; Philadelphia, October 1983.

Bipartisan Commission on Entitlement and Tax Reform, Washington, DC, June 1994.

Brookings Panel on Economic Activity, September 1994, April 1988, September 1987, September 1986, April 1986, September 1985.

Centre for Economic Policy Research Conference on Capital Taxation and European Integration, London, September 1989.

Conference on International Perspectives on the Macroeconomic and Microeconomic Implications of Financing Constraints, Centre for Economic Policy Research, Bergamo, Italy, October 1994.

Congressional Research Service Conference for New Members of Congress, Williamsburg, January 1999.

Congressional Research Service Conference for Members of the Ways and Means Committee, Baltimore, October 2001.

Deutsche Bundesbank Conference on Investing for the Future, Frankfurt, Germany, May 2000.

Eastern Economic Association, Boston, March 1988; Boston, February 1983.

Econometric Society, New Orleans, January 1997; San Francisco, January 1996; Washington, D.C., January 1995; New Orleans, January 1992; Washington, December 1990; Atlanta, December 1989; New York, December 1988; Chicago, December 1987; New Orleans, December 1986; New York, December 1985; Boston, August 1985; Madrid, September 1984; San Francisco, December 1983; Pisa, August 1983.

Energy Modeling Forum, Stanford University, August 1983; February 1983; August 1982.

European Commission, Conference on Taxation of Financial Instruments, Milan, June 1998.

European Institute for Japanese Studies, Tokyo, September 2002; March 2002.

Federal Reserve Bank of Boston, Annual Economic Conference, North Falmouth, Massachusetts, June 1995.

Federal Reserve Bank of Kansas City Symposium on "Financial Market Volatility – Causes, Consequences, and Policy Responses," Jackson Hole, Wyoming, August 1988; Comment of Rogoff, August 2004.

Federal Reserve Bank of New York, Conference on Consolidation of the Financial Services Industry, New York, March 1998.

Federal Reserve Bank of Philadelphia Conference on Economic Policy, Philadelphia, November 2007; November 2001.

Federal Reserve Bank of St. Louis, Conference on Economic Policy, St. Louis, October 1994.

Harvard Law School U. S.-Japan Symposium, Tokyo, December 2003; Washington, D. C., September 2002; Tokyo, December 2001.

Hoover Institution, Conference on Fundamental Tax Reform, December 1995.

The Institute of Gas Technology, Washington, DC, May 1982.

The Institute of Management Science/Operations Research Society of America, Orlando, November 1983; Chicago, April 1983.

International Association of Energy Economists, Boston, November 1986; Philadelphia, December 1985; Bonn, June 1985; San Francisco, November 1984; Washington, DC, June 1983; Denver, November 1982; Cambridge (England), June 1982; Houston, November 1981.

International Conference on the Life Cycle Model, Paris, June 1986.

International Institute of Public Finance, Innsbruck, August 1984.

International Seminar on Public Economics, Amsterdam, April 1997.

National Academy of Sciences, February 1997.

National Association of Business Economists, Orlando, September 2003; Washington, September 2002; New York, September 2001; Boston, September 1996; Dallas, September 1992; New Orleans, October 1987.

National Bureau of Economic Research - IMEMO Conference on the American Economy, Moscow, August 1989.

National Bureau of Economic Research Summer Institute, August 2006; August 2005; July-August 2003; July-August 2000; July-August 1999; July-August 1998; August 1997; July 1995; July 1994; July 1993; August 1992; July-August 1991; July-August 1990; July-August 1989; July-August 1988; July-August 1987; July-August 1986; July 1985; July 1984; July 1983.

National Bureau of Economic Research Conference on Asymmetric Information, Corporate Finance, and Investment, Cambridge, May 1989.

National Bureau of Economic Research Conference on Chinese Economic Reform, Shanghai, China, July 2000.

National Bureau of Economic Research Conference on Financial Crises, Key Biscayne, March 1990.

National Bureau of Economic Research Conference on Government Expenditure Programs, Cambridge, November 1986.

National Bureau of Economic Research Conference on Indian Economic Reform, Rajasthan, India, December 1999.

National Bureau of Economic Research Conference on Innovation Policy, Washington, DC, April 2004, April 2003.

National Bureau of Economic Research Conference on International Taxation, Washington, DC, April 1994; Cambridge, January 1994; New York, September 1991; Nassau, Bahamas, February 1989.

National Bureau of Economic Research, Macroeconomic Annual Conference, Cambridge, MA, April 2004.

National Bureau of Economic Research Conference on Macroeconomics and Industrial Organization, Cambridge, July 1988; Cambridge, July 1987; Cambridge, July 1986; Chicago, November 1985.

National Bureau of Economic Research Conference on Nonprofit Organizations, Cheeca Lodge, January 2002; Cambridge, October 2001.

National Bureau of Economic Research Conference on Pensions, Baltimore, March 1985; San Diego, April 1984.

National Bureau of Economic Research Conference on Productivity, March 1988; March 1987.

National Bureau of Economic Research Conference on Public Economics, Cambridge, April 1999, April 1994, April 1993, November 1991, April 1991, March 1988, November 1987, March 1987.

National Bureau of Economic Research Conference on Tax Policy and the Economy, Washington, DC, October 2001, November 1998, November 1996, November 1994, November 1991, November 1989.

National Bureau of Economic Research Trans-Atlantic Public Economics Seminar, London, May 2002; Gerzensee, May 2000; Turin, May 1994.

Organization for Economic Cooperation and Development, Economic Policy Committee Meeting, Paris, November 2002, April 2002, November 2001, April 2001.

National Tax Association/Tax Institute of America, Washington, DC, June 2000; Atlanta, October 1999; Arlington, May 1992; Seattle, October 1983.

Organization for Economic Cooperation and Development, Ministerial Meeting, Paris, May 2002, May 2001.

Princeton Center for Economic Policy Conference, October 2000, October 1995.

Sveriges Riksbank/Stockholm School of Economics Conference on Asset Markets and Monetary Policy, Stockholm, Sweden, June 2000.

U.S. House of Representatives, Budget Committee, June 2001.

U.S. House of Representatives, Committee on Ways and Means, Washington, DC, June 2006; June 2005; June 1999; April 1997, June 1996, July 1992.

U.S. Joint Economic Committee, Washington, DC, February 2003, October 2002, October 2001, May 2001.

U.S. Senate Committee on Banking, Housing, and Urban Affairs, Washington, DC, October 2001, May 2001.

U.S. Senate Committee on Budget, February 2003, September 2001.

U.S. Senate Committee on Commerce, Science, and Technology, July 2002.

U.S. Senate Committee on Finance, Washington, DC, February 2003, February 2002, February 1997, January 1995, January 1992, December 1981.

## **APPENDIX B**

### **ROBERT GLENN HUBBARD**

#### ***Testimony as an expert witness 2009 – 2013***

*United States of America v. Countrywide Financial Corporation; Countrywide Home Loans, Inc.; Countrywide Bank, FSB; Bank of America Corporation; Bank of America, N.A.; and Rebecca Mairone*, Index No. 12 Civ. 1422, In United States District Court Southern District of New York. Provided deposition testimony in 2013.

*Judith Curran and Michael Earp v. Principal Management Corporation and Principal Funds Distributor, Inc.*, case no. 4:09-cv-00433-RP-CFB, in United States District Court Southern District of Iowa Central Division. Provided deposition testimony in 2013.

*The State Treasurer of the State of South Carolina v. The Bank of New York Mellon and The Bank of New York Mellon*, Civil Action No. 2011-CP-40-00533, State of South Carolina, Court of Common Pleas for the Fifth Judicial Circuit. Provided deposition testimony in 2012.

*MBIA Insurance Corporation v. Countrywide Home Loans, Inc., Countrywide Securities Corp., Countrywide Financial Corp., Countrywide Home Loans Servicing, LP and Bank of America Corp.*, 08/602825, Supreme Court of the State of New York, County of New York. Provided deposition testimony in 2012.

*City of St. Petersburg, Florida v. Wells Fargo Bank, N.A.*, 8:10-CV-00693-JSM-TBM, United States District Court, Middle District of Florida. Provided deposition testimony in 2011 and trial testimony in 2012.

*Pacific Select Fund v. The Bank of New York Mellon*, CV 10-00198 JST, United States District Court, Central District of California. Provided deposition testimony in 2011.

*Securities and Exchange Commission against Ralph Cioffi and Matthew Tannin*, 08 Civ. 2457 (FB), United States District Court, Eastern District of New York. Provided deposition testimony in 2011.

*Chemtech Royalty Associates, L.P., by Dow Europe, S.A., as Tax Matters Partner v. United States of America*, 06-258-BAJ-DLD, United States District Court, Middle District of Louisiana. Provided deposition testimony in 2009 and trial testimony in 2011.

*The Board of Trustees of the Southern California IBEW-NECA Defined Contribution Plan v. The Bank of New York Mellon Corporation, et al.*, Civil Action No. 09-cv-06273 (RMB)(AJP), United States District Court, Southern District of New York. Provided deposition testimony in 2011.

*SCF Arizona v. Wachovia Bank, N.A.*, 09 Civ. 9513 (WHP), United States District Court, Southern District of New York. Provided deposition testimony in 2011.

*Air Products and Chemicals, Inc. v. Airgas, Inc., Peter McCausland, et al.*, Civil Action No. 5249-CC, Court of Chancery of the State of Delaware. Provided deposition testimony and trial testimony in 2010.

*Charles Fisher, et al. v. ABB, Inc., et al.*, 2:06-CV-04305 (NKL), United States District Court, Western District of Missouri. Provided deposition testimony in 2009 and trial testimony in 2010.

*United States of America against Ralph Cioffi and Matthew Tannin*, 08-CR-415(FB), United States District Court, Eastern District of New York. Provided trial testimony in 2009.

*Novell, Inc. v. Microsoft Corporation*, MDL Docket No. 1332, Civil Action No. JRM-05-1087, United States District Court, District of Maryland. Provided deposition testimony in 2009.

*In Re American Mutual Funds Fee Litigation*, 2:04-cv-05593-GAF-RNB, United States District Court, Central District of California, Western Division. Provided deposition testimony in 2009.

**Appendix C**  
**List of Documents Relied Upon**

***Legal Filings***

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- Class Action Petition for Violation of the Securities Act of 1933, *Matthew A. Brady vs. Kosmos Energy Ltd, et al.*, January 10, 2012.
- Consolidated Complaint, *In re Kosmos Energy Ltd Securities Litigation*, Consolidated Civil Action No. 3:12-cv-373-B, December 10, 2012.

***Company Filings***

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- Anadarko Petroleum Corporation, Form 10-Q, for the quarterly period ended June 30, 2011.
- Anadarko Petroleum Corporation, Form 10-Q, for the quarterly period ended September 30, 2011.
- Kosmos Energy Ltd., Prospectus Form 424B1, dated May 10, 2011 and filed on May 12, 2011.
- Kosmos Energy Ltd., Form 10-Q, for the quarterly period ended March 31, 2011.
- Kosmos Energy Ltd., Form 10-Q, for the quarterly period ended June 30, 2011.
- Kosmos Energy Ltd., Form 10-Q, for the quarterly period ended September 30, 2011.
- Kosmos Energy Ltd., Form 10-K, for the fiscal year ended December 31, 2011.

***Other***

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- "Chesapeake Energy Corporation," *Stanford Law School Securities Class Action Clearinghouse*, available at [http://securities.stanford.edu/1042/CHK09\\_01/](http://securities.stanford.edu/1042/CHK09_01/), accessed on October 18, 2013.
- "Denbury Resources Inc.," *Stanford Law School Securities Class Action Clearinghouse*, available at [http://securities.stanford.edu/1044/DNR10\\_01/](http://securities.stanford.edu/1044/DNR10_01/), accessed on October 18, 2013.
- "Petrohawk Energy Corporation," *Stanford Law School Securities Class Action Clearinghouse*, available at [http://securities.stanford.edu/1047/PEC00\\_01/](http://securities.stanford.edu/1047/PEC00_01/), accessed on October 18, 2013.
- *Parnes v. Bally Entm't Corp.*, 2001 Del. Ch. LEXIS 34 (Del. Ch. 2001).
- LexisNexis.
- Stanford Securities Class Action Clearinghouse.

***Data***

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- Bloomberg, L.P.
- Standard & Poor's Capital IQ.

***Textbooks***

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- John Campbell, Andrew Lo, and A. Craig MacKinlay, *The Econometrics of Financial Markets*, Second Edition, Princeton University Press, 1997.
- Zvi Bodie, Alex Kane, and Alan Marcus, *Investments*, Sixth Edition, McGraw-Hill/Irwin, 2005.

***Academic Literature***

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- A. Craig MacKinlay, "Event Studies in Economics and Finance," *Journal of Economic Literature*, Vol. 35, No. 1, March 1997.
- Mark L. Mitchell and Jeffrey M. Netter, "The Role of Financial Economics in Securities Fraud Cases: Applications at the Securities and Exchange Commission," *The Business Lawyer*, Vol. 49, February 1994.
- R. Glenn Hubbard and Darius Palia, "Benefits of Control, Managerial Ownership, and the Stock Returns of Acquiring Firms," *RAND Journal of Economics*, Vol. 26, No. 4, 1995.

- R. Glenn Hubbard and Darius Palia, "A Reexamination of the Conglomerate Merger Wave in the 1960s: An Internal Capital Markets View," *Journal of Finance*, Vol. 54, No. 3, 1999.

### *Analyst Reports*

---

- "Kosmos Energy," *Tudor Pickering Holt & Co*, May 4, 2011. (Received from Counsel.)
- "Initiating Coverage With 2-Equal Weight," *Barclays Capital*, June 20, 2011. (Obtained from Thomson ONE and received from Counsel.)
- "Initiating Coverage with Buy/High Risk Rating; \$22 Price Target," *Citi*, June 20, 2011. (Received from Counsel.)
- "Ghana Can Still Surprise," *Credit Suisse*, June 20, 2011. (Obtained from Thomson ONE and received from Counsel.)
- "Masters of the Game Now Everyone Wants to Play....," *Jefferies*, June 20, 2011. (Obtained from Thomson ONE and received from Counsel.)
- "An Oil Leveraged, West African, Wildcatter with a Proven E&D Team in New 'Play Types'," *Societe Generale*, June 20, 2011. (Obtained from Thomson ONE and received from Counsel.)
- "Initiating Coverage," *Howard Weil*, July 15, 2011. (Received from Counsel.)
- "Inexpensive on Existing Ghana Discoveries," *ISI*, August 3, 2011. (Received from Counsel.)
- "Results Were in Line with SG and Consensus; Accelerated Drilling Plan May not be Enough Given Weak Market Conditions," *Societe Generale*, August 11, 2011. (Obtained from Thomson ONE and received from Counsel.)
- "Jubilee Plateau by End 2011....," *Jefferies*, August 11, 2011. (Obtained from Thomson ONE and received from Counsel.)
- "Kosmos Reports Q2 Results," *Barclays Capital*, August 12, 2011. (Obtained from Thomson ONE and received from Counsel.)
- "Exploration Calendar Expanding, in 2012-13," *Credit Suisse*, August 12, 2011. (Obtained from Thomson ONE and received from Counsel.)
- "Canadian Research at a Glance," *RBC*, August 17, 2011. (Obtained from Thomson ONE.)
- "Appraisal Upside," *RBC*, August 17, 2011. (Obtained from Thomson ONE and received from Counsel.)
- "Alert: Akasa is First Post-IPO Exploration Success," *Citi*, August 23, 2011. (Received from Counsel.)
- "Akasa Discovery in Ghana (+ for KOS, APC), KOS Looks Cheap on Discovered Resources," *ISI*, August 23, 2011. (Received from Counsel.)
- "Deep Prospect Inventory; Deep Value," *Credit Suisse*, August 24, 2011. (Obtained from Thomson ONE and received from Counsel.)
- "New Discovery and Positive Outlook," *RBC*, August 24, 2011. (Obtained from Thomson ONE and received from Counsel.)
- "Teak, Cedrela and Enyenra Offer Value Upside," *Credit Suisse*, September 20, 2011. (Obtained from Thomson ONE and received from Counsel.)
- "One Step Beyond," *Standard Bank Group*, September 27, 2011. (Received from Counsel.)
- "Enyenra Updip Well Points to Second FPSO, Teak Appraisal Coming," *ISI*, September 29, 2011. (Received from Counsel.)
- "Notes from the Road, Inexpensive Assets with Exploration Optionality," *ISI*, October 17, 2011. (Received from Counsel.)
- "Catalysts, Value and Increasing Footprint," *Credit Suisse*, October 19, 2011. (Obtained from Thomson ONE and received from Counsel.)
- "Abundant Catalysts," *Barclays Capital*, November 1, 2011. (Obtained from Thomson ONE.)
- "Still Busy 'Elephant Hunting'," *Credit Suisse*, November 9, 2011. (Obtained from Thomson ONE.)

- "In Line Quarter but Now With More Jubilee," *RBC*, November 10, 2011. (Obtained from Thomson ONE and received from Counsel.)
- "Miss on Taxes. Delayed Jubilee Ramp a Known, No Reserve Impact. Still a BUY," *Societe Generale*, November 10, 2011. (Obtained from ThomsonONE and received from Counsel.)
- "Q3'11 Wrap-Up: Jubilee Full Ramp-Up Delayed Until End 2012," *Citi*, November 11, 2011. (Received from Counsel.)
- "Lowering EPS on Jubilee Delays, Higher Corporate Tax Rate," *Credit Suisse*, November 11, 2011. (Obtained from ThomsonONE and received from Counsel.)
- "Reports 3Q11 Results Slightly Below Consensus; Announces New Acreage Add in Morocco," *Howard Weil*, November 11, 2011. (Received from Counsel.)
- "The Big Easy," *RBC*, November 11, 2011. (Obtained from Thomson ONE.)
- "Positive on Balance," *Standard Bank Group*, November 11, 2011. (Received from Counsel.)
- "Jubilee Production Issues," *Tudor Pickering Holt & Co*, November 11, 2011. (Received from Counsel.)
- "It's Tough at the Top," *Marquarie Equities Research*, November 11, 2011. (Obtained from Thomson ONE.)
- "Announces Successful Extension of Teak-1 Discovery with Teak-3A Appraisal Well," *Howard Weil*, November 18, 2011. (Received from Counsel.)
- "Teak 3 Success," *Tudor Pickering Holt & Co*, November 18, 2011. (Received from Counsel.)
- "Teak-3A Well Results," *Standard Bank Group*, November 21, 2011. (Received from Counsel.)
- "Initiating Coverage of CIE and KOS," *Deutsche Bank*, December 5, 2011. (Received from Counsel.)
- "Alert: Exploration Portfolio Addition Offshore Suriname," *Citi*, December 14, 2011. (Received from Counsel.)
- "Announces New Exploration Licenses Offshore Suriname and Contract in Morocco," *Howard Weil*, December 14, 2011. (Received from Counsel.)
- "Kosmos Expands Long-Term Opportunity Set," *RBC*, December 14, 2011. (Obtained from Thomson ONE and received from Counsel.)
- "Acquisition of New Acreage," *Standard Bank Group*, December 15, 2011. (Received from Counsel.)
- "KOS Boosts Acreage," *Tudor Pickering Holt & Co*, December 15, 2011. (Received from Counsel.)
- "Upgrading to 1-OW, Shares Have Lagged," *Barclays Capital*, December 16, 2011. (Obtained from Thomson ONE and received from Counsel.)
- "E&P, Integrated Oil And Refiners," *Barclays Capital*, January 9, 2012. (Received from Counsel.)
- "Oil & Gas Exploration and Production," *Deutsche Bank*, January 9, 2012. (Received from Counsel.)
- "Kosmos Energy," *RBC*, January 9, 2012. (Received from Counsel.)

#### ***News Articles***

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- "UPDATE: Tullow: 2nd Ghana Oil Project Could Produce 125,000B/D," *Dow Jones*, March 9, 2011, 2:35 AM.
- "Ghana's Reported Failure to Disclose Oil Contracts Questioned," *BBC*, May 10, 2011, 8:32 AM.
- "Kosmos Energy Prices 33 Million Shares at \$18 Each in U.S. IPO," *Bloomberg*, May 10, 2011, 7:52 PM.
- "Kosmos Raises \$594 Million in Expanded Initial Public Offering," *Bloomberg*, May 10, 2011, 8:14 PM.
- "Warburg, Blackstone Seek Kosmos IPO After Oil Hits 32-Month High," *Bloomberg*, May 10, 2011, 12:01 AM.
- "Warburg, Blackstone Seek Kosmos IPO as Crude Oil Hits High (2)," *Bloomberg*, May 10, 2011, 5:57 PM.
- "Kosmos Energy Prices Initial Public Offering of Common Shares," *Business Wire*, May 10, 2011, 10:21 PM.
- "Calendar Of Equity Issues Expected To Price This Week," *Dow Jones*, May 10, 2011, 11:17 AM.
- "Kosmos Energy IPO Expected Wednesday; Oil Production Firm to Raise \$510 Million," *MarketWatch*, May 10, 2011, 3:52 PM.
- "UPDATE 2-Kosmos Energy IPO Raises More Than Expected," *Reuters*, May 10, 2011, 8:27 PM.
- "Minister Orders Disclosure of Oil Contracts," *All Africa*, May 11, 2011, 6:09 AM.
- "Kosmos Prices Initial Public Offering of 33 Million Shares at \$18 Apiece," *Associated Press*, May 11, 2011, 7:35 AM.

- "US Firm to Pay Ghana 15m-Dollar Fine Over Leaked Oil Data," *BBC*, May 11, 2011, 6:10 AM.
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**Appendix D1**  
**Event Study Results**  
**Kosmos' Returns Adjusted for the S&P 500 Index**  
**and Equally-Weighted Custom Peer Index**

<b>Event Date</b>	<b>Residual Return</b>	<b>t-statistic</b>	<b>Residual Dollar Amount</b>	<b>Negative, Significant Residual Dollar Amount</b>
<i>May 13, 2011</i>	<i>1.12%</i>	<i>0.46</i>	<i>\$ 0.20</i>	<i>\$ -</i>
<i>June 13, 2011</i>	<i>2.80%</i>	<i>1.15</i>	<i>\$ 0.51</i>	<i>\$ -</i>
<i>June 17, 2011</i>	<i>0.43%</i>	<i>0.18</i>	<i>\$ 0.08</i>	<i>\$ -</i>
<i>July 5, 2011</i>	<i>1.61%</i>	<i>0.66</i>	<i>\$ 0.27</i>	<i>\$ -</i>
<i>July 7, 2011</i>	<i>2.10%</i>	<i>0.87</i>	<i>\$ 0.36</i>	<i>\$ -</i>
<i>August 11, 2011</i>	<i>0.13%</i>	<i>0.05</i>	<i>\$ 0.02</i>	<i>\$ -</i>
<i>August 24, 2011</i>	<i>5.22%</i>	<i>2.15 **</i>	<i>\$ 0.68</i>	<i>\$ -</i>
<i>October 6, 2011</i>	<i>1.35%</i>	<i>0.56</i>	<i>\$ 0.15</i>	<i>\$ -</i>
<i>November 1, 2011</i>	<i>-0.68%</i>	<i>-0.28</i>	<i>\$ (0.10)</i>	<i>\$ -</i>
<i>November 9, 2011</i>	<i>5.17%</i>	<i>2.11 **</i>	<i>\$ 0.69</i>	<i>\$ -</i>
<i>November 10, 2011</i>	<i>-1.92%</i>	<i>-0.79</i>	<i>\$ (0.27)</i>	<i>\$ -</i>
<i>November 15, 2011</i>	<i>0.44%</i>	<i>0.18</i>	<i>\$ 0.06</i>	<i>\$ -</i>
<i>December 6, 2011</i>	<i>0.10%</i>	<i>0.04</i>	<i>\$ 0.01</i>	<i>\$ -</i>
<i>December 13, 2011</i>	<i>0.73%</i>	<i>0.30</i>	<i>\$ 0.08</i>	<i>\$ -</i>

**Notes and Sources:**

- [1] I based the event study on an Ordinary Least Squares regression over the period of May 11, 2011 - January 10, 2012. The first trading day following the IPO (May 11, 2011) was dummied out in the regression.
- [2] I constructed the Equally-Weighted Custom Peer Index using the 15 U.S. domiciled firms identified as "peer," "comparable," or "comp" in analyst reports covering Kosmos during the Class Period. These 15 U.S. companies are Apache Corporation, Cobalt International Energy, Concho Resources, Devon Energy, Endeavour International, EOG Resources, Newfield Exploration, Noble Energy, Occidental Petroleum, Pioneer Natural Resources, QEP Resources, Range Resources, Rosetta Resources, Southwestern Energy, and Ultra Petroleum. I excluded Anadarko Petroleum from the index because of its ownership interest in Jubilee Field. In addition, I excluded Chesapeake Energy, Denbury Resources, and Petrohawk Energy because they had unresolved securities-related litigation during the Class Period. The constituent firms are given equal weight in the construction of the index.
- [3] I controlled for market effects in the regression using the S&P 500 Total Return Index. The estimated regression coefficient on the S&P 500 Total Return Index is 0.00, and is not statistically significantly different from zero. The estimated regression coefficient on the Equally-Weighted Custom Peer Index is 0.67, and is statistically significantly different from zero at the 99% confidence level.
- [4] \*, \*\*, and \*\*\* denote statistical significance at the 90, 95, and 99 percent levels, respectively.
- [5] Bloomberg, L.P.

**Appendix D2**  
**Event Study Results**  
**Kosmos' Returns Adjusted for the S&P 500 Index**  
**and S&P 500 Energy Sector Total Return Index**

<b>Event Date</b>	<b>Residual Return</b>	<b>t-statistic</b>	<b>Residual Dollar Amount</b>	<b>Negative, Significant Residual Dollar Amount</b>
<i>May 13, 2011</i>	1.38%	0.55	\$ 0.25	\$ -
<i>June 13, 2011</i>	2.36%	0.92	\$ 0.43	\$ -
<i>June 17, 2011</i>	0.58%	0.23	\$ 0.11	\$ -
<i>July 5, 2011</i>	2.06%	0.82	\$ 0.35	\$ -
<i>July 7, 2011</i>	2.00%	0.80	\$ 0.34	\$ -
<i>August 11, 2011</i>	0.07%	0.03	\$ 0.01	\$ -
<i>August 24, 2011</i>	5.38%	2.12 **	\$ 0.70	\$ -
<i>October 6, 2011</i>	1.30%	0.51	\$ 0.14	\$ -
<i>November 1, 2011</i>	-0.55%	-0.22	\$ (0.08)	\$ -
<i>November 9, 2011</i>	4.95%	1.95 *	\$ 0.66	\$ -
<i>November 10, 2011</i>	-1.07%	-0.43	\$ (0.15)	\$ -
<i>November 15, 2011</i>	0.91%	0.36	\$ 0.12	\$ -
<i>December 6, 2011</i>	0.27%	0.11	\$ 0.03	\$ -
<i>December 13, 2011</i>	-0.48%	-0.19	\$ (0.06)	\$ -

**Notes and Sources:**

- [1] I based the event study on an Ordinary Least Squares regression over the period of May 11, 2011 - January 10, 2012. The first trading day following the IPO (May 11, 2011) was dummied out in the regression.
- [2] I controlled for market effects in the regression using the S&P 500 Total Return Index. The estimated regression coefficient on the S&P 500 Total Return Index is 0.11, and is not statistically significantly different from zero. I also controlled for industry effects in the regression using the S&P 500 Total Return Energy Sector Index. The estimated regression coefficient on the S&P 500 Energy Sector Total Return Index is 0.75, and is statistically significantly different from zero at the 95% confidence level.
- [3] \*, \*\*, and \*\*\* denote statistical significance at the 90, 95, and 99 percent levels, respectively.
- [4] Bloomberg, L.P.